

THE  
ENGLISH  
MANS TREASVRE,  
OR TREASOR FOR  
ENGLISHMEN:

VVith the true Anatomye of Mans  
*Body, Compiled by that excellent*  
chirurgion Maister Thomas Vicary  
Esquire Sergeant Chirurgion to King  
*Henry the 8. To King Edward the 6.*  
*To Queene Mary. And to our*  
*Soueraigne Lady Queene*  
*Elizabeth.*

And also cheefe Chirurgion to S. Bartholo-  
mewes hospitall.

Wherunto are annexed many secrets appertaining to Chirur-  
gery, with diuers excellent approued Remedies for all diseases the  
which are in man or woman, with emplasters of speciall cure  
with other potions and drinckes approued in Physicke.

*Also the rare treasor of the English Bathes, Written by*  
*William Turner, Doctor in Physicke.*

Gathered and set forth for the benefit of his friendes and  
countrimen in England by *William Bremer* Practi-  
tioner in Physicke and Chirurgery.

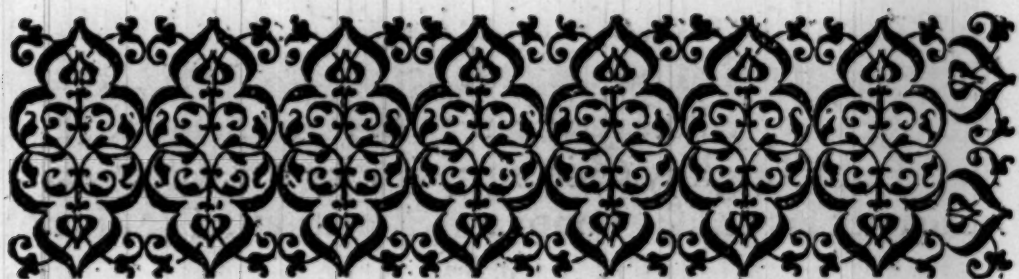


AT LONDON,

Imprinted by Iohn VVindet for Iohn Perin  
dwelling in Paules Church-yard at the signe of the Angell,  
and are there to be sold. 1586.







TO THE RIGHT WOR-  
SHIPFULL SIR ROVLAND  
HAYWARD KNIGHT, PRESIDENT

OF LITTLE SAINT BARTHOLOMEVVS

*in West Smithfeilde, Sir Ambrose Nicolas Knight*

*Sir Thomas Ramesay knight, with the rest of  
the worshipfull Maisters and gouer-  
nours of the same:*

William Clowes, William Beton, Richard Story  
and Edward Bayly, Chirurgions of the  
same hospitall, wisheth health.  
and prosperitie..



THE people in times past did praise and ex-  
toll by Pictures and Epigrammes the fa-  
mous deedes of all such persons, whosoe-  
uer in any verteous qualitee or liberall sci-  
ence excelled. *Sulpitius Gallus* among the  
*Romanes* was highly renowned for his singuler cunning  
in Astronomy, by whose meanes *Lucius Paulus* obtained  
the victory in his warres against *Persius*. *Pericles* also a-  
mong the *Athenians* was had in great admiration & ho-  
nour for his profound knowledge in Philosophie, by  
whom the whole citie of *Athens* was from care and woe  
deliuered, when they supposed their destruction to bee  
neare at hand, by a blacke dareknes of some admiration  
hanging ouer their citie. How honorably was *Apelles*.

## The Epistle

the Painter esteemed of mighty king *Alexander* by whom onely he desired to be painted. But amongst all other arts and Sciences, whose praise in tymes past flourished and shined most brightly, Chirurgery among the wise *Grecians* lacked not his praise, honor and estimation. For did not that worthie and famous captaine of the Grekes *Agamemnon* loue dearly and reward bountifully both *Podalerius* and *Machaon* through whose cunnings skill in Surgery, thousands of worthie Grekes were saued alieue and healed, who else had died and perished. And further here to speak of *Philoneter*, of *Attalus*, of *Hiero*, of *Archelaus*, and of *Iuba* kings of famous memory, who purchased eternall praise by their study and cunning in Phisicke and Surgery. But now in these our dayes enuy so ruleth the roste, that Phisicke should be condemned, and Surgery despised for euer but that sometime payne biddeth battaile, and care keepeth skirmish, in such bitter sorte, that at the last this Alarum is sounded out, Nowe come Phisicke, and then help Surgery. Then is remembred the saying of *Iesus the sonne of Sirach*: which is notable, Honour the Phisition and Chirurgeon for necessitie, whom the almightie God hath created because from the hiest commeth medicine, and they shall receaue giftes of the King. Wherefore wee exhorthe the wyse man that he in no time of prosperitie and health, neglect these noble artes and mysteries of Phisicke and Chirurgery, because no age, no person, no countrey can long time lacke their helps and remedies. What is it to haue landes and houses, to abounde in siluer and golde to be deckt with pearles and diamondes, yea and to possesse the whole worlde, to rule ouer nations and contreys: and to lacke health, the cheefest Iewell and greatest treasure of mans lyfe and delight.

Consider then we besech your Worships, what praises are due to such noble Sciences, which onely work the  
causes



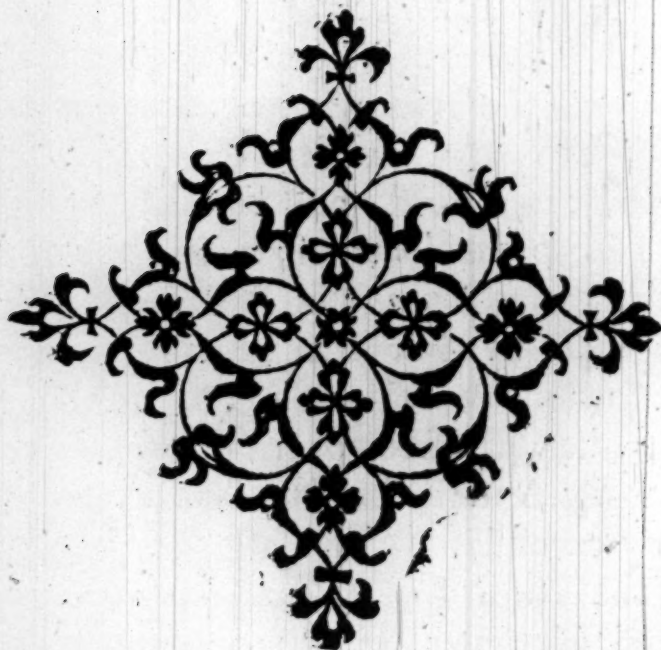
## Dedicatorie.

causes of this aforesaide health, and how much the weale-  
publike are bounde to all them, whose cares and studies  
dayly tendeth to this ende. Amongst whom here is to be  
remembred *Maister Vicary* Esquire, Sergeant Chirurgion  
to Kings and Queenes of famous memorie: Whose lear-  
ned worke of Anatomye is by vs the forenamed Surgions  
of Saint Bartholomewes in Smithfeild, newly reuiued,  
corrected and published abroad to the commoditie of o-  
thers, who be studentes in Chirurgery: not without our  
greate studies, paynes and charges, And although we doe  
lacke the profound knowledge, and sugred eloquence of  
the Latine and Greke tongues, to decke and beautifie this  
worke, yet we hope the studious reader shall thereby reape  
singuler commodity and fruit, by reading this litle treatise  
of the Anatomy of mans body, the which is onely ground-  
ded vpon reason and experience which are two principall  
rootes of phisicke and Surgery. As it is graunted by *Galen*  
in his third booke *De methodo medendi*: and wee who day-  
ly worke and practise in Surgery, according to the deep-  
nesse of the Arte, aswell in greeuous woundes, vlcers, and  
Fistules, as other hyd and secrete diseases vpon the body  
of man, dayly vsed by vs in S. Bartholomewes hospitall, &  
other places, &c. Those poore and greeued creatures, as-  
well men and weomen, as children do knowe the profite  
of this arte, to be manifold, and the lacke of the same to  
be lameted. Therefore *Galen* truely writeth, saying, That no  
man cā work so perfectly, as aforesaid, without the know-  
ledge of the Anatomy: For (saith he) it is as possible for a  
blinde man to carue & make an image perfect, as a Chi-  
rurgian to worke without error in mans body not know-  
ing the Anatomy. And further, for as much as your Wor-  
ships are very carefull for those poore and greeued crea-  
tures within the Hospital of S. Bartholomewes, &c. wher-  
of *Maister Vicary* was a member: We are therefore now



## *The Epistle Dedicatory.*

encouraged to dedicate this litle worke of the Anatomy, being his and our trauels, to you as Patrons of this booke to defend against the rauening lawes of enuyous Backbiters, which neuer cease by all vnlawfull meanes to blemish and deface the workes of the learned, expert, and well disposed persons. Finally, we do humbly craue of your goodnesse, to accept in good part this treatise concerning the Anatomy, as the fruites of our studies and labours, whereby we shalbe much better encouraged to set foorth heereafter other profitable works for the common wealth. Heerein if your Wisedomes do vouchsafe to heare our requests, and to allow these our doinges, as did noble Amasius king of Ægipt accepte the laboures of his painefull Artificers, We haue not onely to thank your Worshipes for so doing, but also to pray vnto the almightie God to requite your goodnesse, receauing you into his protection and keeping.  
Amen.



## To the Reader.



Eare Brethren, and friendly Readeres, vvee haue heere according to the trueth & meaning of the Author, sette forth this needefull and necessarie vvorke concerning the Anatomy of mans body, being collected and gathered by Maister Thomas Vicary, and nowe by vs the Chirurgions of S. Bartholomevves Hospital reuiued, corrected, and published. And albeit this treatise be small in volume, yet in commoditie it is great and profitable. Notwithstanding if the things therein contained be not discretely & vvifely studied and applied, according to the true meaning of the Author, vve haue to tell you heerof, that therein is great perill, because through ignorant practitioners, not knowing the Anatomy, commonly doth ensue death, and separation of soule and body. Furthermore vvheras many good and learned men in these our dayes, doe cease to publishe abroad in the English tongue their vvorkes and trauelles, it

is



## *To the Reader.*

is for that if any one fault or blemish by fortune bee committed, either by them or the printer escaped, they are blamed, yea and condemned for ignorant men, and error holders. But now we cease heere from these points, to trouble the gentle reader with longer discoursing, for whose sakes & comodities we haue takē these pains: wishing that men more skilfull and better learned would haue borne this burthē for vs. Crauing only this much at your handes, for to correct our faults fauorably, & to report of the Author courteously, vwho sought (no doubt) your commodities onely and the profit of the common vvealth without praise & vaine glory of him selfe. Thus we the Chirurgions aforesaid, commit you to the blessed keeping of Almighty God, vwho alwayes defend & increase your studies & ours.

*Amen.*



# THOMAS VICARY TO HIS Brethren practising chirurgery




Hereafter followeth a litle treatise entitled a *Treasure* for Englishmen of the *Anatomie* of man: Made by Thomas Vicarie Citizen and Chirurgion of London, for all such young Brethren of his fellowship practising Chirurgery: Not for them that be expertly seene in the *Anatomy*: for to them Galen the *Lanterne* of all Chirurgions, hath set it forth in his *Canons*, to the high glory of God, and to the erudition and knowledge of all those that be expertly seene and learned in the noble science of Chirurgery. And because all the noble Philosophers writing upon Chirurgery, do condemne all such persons as practise in Chirurgery not knowing the *Anatomy*. Therefore I have drawn into certaine lessons and small Chapters, a part of the *Anatomy*, but touching a part of every member particularly: Requiring every man that shall reade this litle treatise, to correct and amende it where it shall be neede, and hold me excused for my bolde enterprise, and accept my goodwill towards the same.

O Lord which made the loftye Skyes,  
Worke in our Rulers harts,  
Alwayes to haue before their eyes  
Safegard to godly Artes.




HOT YADIV S. 12017

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Now he that is the perfect guide,  
 doth know our helps were here alone  
 By homely stile it may be spyde  
 for rules in Rhetoricke haue we none.  
 Our heads do lack that filed phrase,  
 Whereon fine wits delight to gaze.  
 If any say we deserue heere blame,  
 We pray you then amende the same.



## *A Treasure for*

Chirurgerie is hande working.

Nowe the seconde manner of knowinge what thinge Chirurgerie is, it is the saying of Auicen to bee knownen by his beeing, for it is verelye a medecinall science: and as Galen sayeth: hee that will knowe the certaintie of a thing, let him not busie him selfe to knowe onely the name of that thing, but also the working and the effect of the same thing.

Nowe the thirde waye to knowe what thinge Chirurgerie is, It is also to bee knownen by his beeing or declaring of his owne properties, the whiche teacheth vs to worke in mans bodye with handes: as thus: In cuttinge or openinge those partes that be whole, and in healing those partes that bee broken or cut, and in taking away that that is superfluous, as Warts, Wenues, Skurfulas, and other like. But further to declare what Galen sayeth Surgerie is. It is the last instrument of medicine: that is to saye, Dyet, Pociou, and Chirurgerie: of the which three, sayeth hee, Dyet is the noblest, and the moste vertuous. And thus hee sayeth, whereas a man may bee cured with Dyet onely, let there bee giuen no manner of medicine. The seconde instrument is Pociou: for and if a man may bee cured with Dyet and Pociou, let there not bee ministred anye Chirurgerie. The thirde and last instrument, is Chirurgerie, through whose vertue and goodnesse is remooued and put awaye many greuous infirmities and diseases, which might not haue bene remooued nor yet put awaye, neither with Dyet, nor with Pociou. And by these three meanes it is knownen what thing Chirurgerie is. And this suffiseth for vs for that poynt. Nowe it is knownen what thing Chirurgerie is, there must also bee chosen a man apt and meete to minister Surgerie, or to bee a Chirurgion. And in this poynt all Authoers doe agree, that  
 a Chi



# A TREASVRE FOR

## *English men, conteyning the Anatomie*

of mans bodie : Compyled by Thomas Vycarie, Esquire,  
and Sergeant Chirurgion to King Henry the eight, to K.  
Edward the sixt, to Queene Marie, and to our most gracious So-  
ueraigne Ladie Queene Elizabeth. And also chiefe Chy-  
rurgion of S Bartholomewes Hospitall, for the vse  
and commoditie of all vnlearned practi-  
cioners in Chirurgerie.



Erre I shall declare vnto you,  
shortly and briefly, the sayings,  
and the determinations of diuers  
ancient Authoꝝ, in thzee points,  
verie expedient foꝛ all men to  
knowe, that entend to vse oꝛ ex-  
ercise the mysterie oꝛ art of Chi-  
rurgerie. The first is, to knowe  
what thing Chirurgerie is : The  
second is, how that a Chirurgion should be chosen : And  
the third is, with what properties a Surgion shoulde be  
indued.

The first is to know what thing Chirurgerie is. Here,  
in I doe note the saying of Lamfranke, whereas he sayth:  
All things that man would knowe, may be knowen by  
one of these thzee things : That is to say, by his name, oꝛ  
by his working, oꝛ els by his verie being and shewing of  
his owne properties. So then it followeth, that in the  
same manner we may know what Chirurgerie is by thzee  
things. First, by his name, as thus : The Interpreters  
write, that Surgerie is deriued out of these wordes, Apo-  
tes chiros, cai tou ergou, that is to bee vnderstanded : a  
hand working, and so it may be taken foꝛ all handie artes.  
But noble Ipocras sayeth, that Surgerie is hande wor-  
king in mans bodie, foꝛ the verie ende and profit of Chi-  
rurgeria

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rurgeria

## *English men.*

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a Chirurgion shoulde bee chosen by his complexion, and  
that his complexion bee verie temperate, and all his mem-  
bers well proportioned. Foꝛ Rasis sayeth : Whose face  
is not seemely, it is vnpossible foꝛ him foꝛ to haue good  
manners. And Aristotle the great Philosopher writ-  
teth in his Epistles to the noble King Alexander (as in  
those Epistles more playnlye doeth appeare) howe hee  
shoulde choose all such persons as shoulde serue him, by  
the fourme and shape of the face, and all other members  
of the bodie. And furthermoze they saye, hee that is of an  
euill complexion, there must needes followe like condi-  
tions. Wherefoze it agreeth that a Chirurgion must be  
both of a good and temperate complexion, as is afoze re-  
hearsed. And principally, that hee be a good liuer, and  
a keeper of the holye commaundementes of God, of  
whome cometh all cunning and grace, and that his bo-  
dye bee not quaking, and his handes stedfast, his fingers  
long and small, and not tremblinge : and that his lefte  
hande bee as readie as his right hande, with all his lym-  
mes able to fulfill the good woꝛkes of the soule. Nowe  
heere is a man meete to bee made a Chirurgion. And  
though hee haue all these good qualities befoze rehear-  
sed, yet is hee no good Chirurgion, but a man verie fitte  
and meete therfoze. Nowe then to knowe what pro-  
perties and conditions this man must haue befoze he bee  
a perfect Chirurgion.

And I doe note foure thinges mooste speciallye that  
euerie Chirurgion ought foꝛ to haue : The firste, that  
hee bee learned : The seconde, that hee bee expert : The  
thirde, that hee bee ingenuous : The fourth, that hee bee  
well mannered. The first (I sayde) hee ought to bee  
learned, and that hee knowe his principles, not onely in  
Chirurgerie, but also in Physicke, that hee maye the bet-  
ter defende his Surgerie. Also hee ought to bee seene

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in naturall Philosophie, and in Grammer, that he speake congruities in Logike, that teacheth him to proue his proportions with good reason. In Rhetorike, that teacheth him to speake seemely and eloquently: also in Theorike, that teacheth him to knowe things natural, and not naturall, and things against nature. Also he must knowe the Anatomie, for all authours write against those Surgeons that worke in mans bodie, not knowing the Anatomie: For they be likened to a blinde man, that cutteth in a Vine tree, for he taketh more or lesse then he ought to do. And here note wel the saying of Galen the prince of Philosophers, in his Estoris, that it is as possible for a Surgion not knowing the Anatomie, to worke in mans bodie without error, as it is for a blinde man to carue an Image and make it perfect. The seconde, I sayde, he must be expert: For Rasus sayeth, he ought to know and to see other men worke, and after to haue vse and exercise. The thirde, that he be ingenious or wittie: for all things belonging to Chirurgerie may not be written, nor with letters set forth. The fourth, I sayde, that he must be wel manered, & that he haue all these good conditions here following: First, that he be no spousbreaker, nor no drunkarde. For the Philosophers saye, amongst all other things, beware of those persons that followe drunkennes, for they be accompted for no men, because they liue a life bestial: wherefore amongst al other sortes of people, they ought to be sequestred from the ministring of medicine. Likewise a Chirurgion must take hede that he deceiue no man with his vaine promises, for to make of a small matter a great, because he would be counted the more famous. And amongst other things, they may neither be flatterers, nor mockers, nor priue backbiters of other men. Likewise they must not be proude, nor presumptuous, nor detractors of other men. Likewise they ought not to

to be too couetous, noꝛ no nigarde, and namely amongst their friendes, oꝛ men of woꝛship, but let them be honest, curteous, and free, both in woꝛde and dede. Likewise they shall giue no counsell except they bee asked, and then say their aduise by good deliberation, and that they be well aduised afoꝛe they speake, chiefly in the presence of wise men. Likewise they must be as priuie and as secrete as any Confessor, of all thinges that they shall eꝛther heare oꝛ see in the house of their Patient. They shall not take into their cure any maner of person, except he will be obedient vnto their precepts, foꝛ he can not be called a patient, vnlesse he be a sufferer. Also that they doe their diligence as well to the poꝛe as to the rich. They shall neuer discomfoꝛt their Patient, and shall commaunde all that be about him that they doe the same, but to his friends speake truth as the case standeth. They must also be bold in those things whereof they be certaine, and as dreadfull in all perilles. They may not chide with the sicke, but be alwayes pleasant and merie. They must not couet any woman by way of vilanie, and specially in the house of their Patient. They shall not foꝛ couetousnesse of money take in hande those cures that be vncurable, noꝛ neuer set any certaine day of the sickmans health, foꝛ it lyeth not in their power: following the distinct counsaile of Galen, in the amphorisme of Apocras, saying: Oportet seipsum non solum. By this Galen meaneth, that to the cure of euery soꝛe there belongeth foure thinges: of which, the first and principall belongeth to God, the seconde to the Surgion, the third to the Medicine, & the fourth to the Patient. Of the which foure and if any one do faile, the Patient can not be healed: then they, to whome belongeth but the fourth part, shall not promise the whole, but be first well aduised. They must also be gracious and good to the poꝛe, and of the riche take liberally foꝛ both. And see they neuer prayse them selues,



for that redoundeth more to their shame and discredit, then to their fame and worship: For a cunning & skillfull Chirurgeon neede neuer baunt of his doings, for his works wil ever get credite ynough. Likewise that they despise no other Chirurgeon without a great cause: for it is mete that one Chirurgeon should loue another, as Christ loueth vs all. And in thus dooing they shall increase both in vertue and cunning, to the honour of God and woꝛldly fame. To whom be bzing vs all, Amen,

### *The Anatomie of the simple members.*

**A**nd if it be asked you howe many simple members there be, it is to be answered, eleuen, and two that be but superfluities of members; and these be they, Bones, Cartilages, Perues, Vannicles, Lygamets, Cordes, Arteirs, Veynes, Fatnes, Flesh and Skinne: and the superfluities be the heares and the nayles. I shal begin at the bone, because it is the foundatiō, and the hardest member of all the body. The Bone is a consimile member, simple and spermaticke, and colde and dry of complexion, insensible, and inflexible: and hath diuers formes in mans body, for the diuersitie of helpings. The cause why there be many bones in mans body is this: Sometime it is needeful that one member or one lymme should moue without another. Another cause is, that some defende the principall members, as doth the bone of the breast, and of the head: and some to be the foundatiō of diuers parts of the body, as the bones of the Ridge, and of the legges: and some to fulfill the hollow places, as in the handes and fete, &c.

The Gyfte is a member simple and spermaticke, next in hardnes to the bone, and is of complexion colde and dry,  
and



and insensible. The gryſtle was ordeyned for ſixe cauſes, or profiteſ that I finde in it: The firſt is, that the continual mouing of the hard bone might not be done in a iuncture but that the gryſtle ſhould be a meane betwene the Lygament and him: The ſeconde is, that in the time of concuſſion or oppreſſion, the ſoft members or limmes ſhould not be hurt of the harde: The thirde is, that the extremitie of bones and Joyntes that be gryſtly, might the eaſelger be ſolded and moued together without hurt: the fourth is, for that it is neceſſary in ſome meane places to put a gryſtle, as in the throte bowel for the ſounde: The fifth is, for that it is needefull that ſome members be holden by with a gryſtle, as the lids of the eyes: The ſixth is, that ſome limmes haue a ſuſteyning and a drawing abroade, as in the noſe and the eares, &c.

The Lygament is a member conſumple, ſimple, & ſpermatike, next in hardneſſe to the gryſtle and of complexion colde and drye, and is flexible and inſensible, and bindeth the bones together. The cauſe why he is flexible and inſensible is this: If it had bene ſenſible, he might not haue ſuffred the labour and mouing of the ioyntes: and if it had not bene flexible of his bowing, one lymme ſhould not haue moued without another. The ſeconde profite is, that hee be ioyned with ſinewes, for to make Cordes and Watnes: The thirde helpe is, that he be a reſting plate to ſome ſynelues: The fourth profite is, that by him the members that be within the body be ſuſtained, as the matrix and kidneis, and diuers other, &c.

The Sinew is a conſiderable member, ſimple and ſpermatike, meane betwene hard and ſoft, and in complexion cold and drye, and he is both flexible and ſenſible, ſtrong and tough, hauing his beginning from the bzaine, or from Mynuca, which is the marowe of the backe. And from the bzaine commeth, by payre of ſerues ſenſatiues, and from

Mynuca commeth xxx. payre of Perues motius, and one that is by himselfe, that springeth of the last spondell. All these seneues haue both feeling and mouing, in some moze and in some lesse. &c.

A Corde or Tendon is a consimple or officiall member, compounde and spermaticke, synowey, strong, and tough, meanely betwene hardnes and softnesse, and meanely sensible and flexible, and in complexion cold and dry. And the Corde or Tendon is thus made: The synewes that come from the bzaine and from Mynuca, and goe to moue the members, is intermingled with the Lygamentes, & when the synewes and Lygamentes are intermingled together, then is made a Corde. And thre causes I perceiue why the Cordes were made: The first is, that the Synewe alone is so sensible that hee may not suffer the great labour and trauell of mouing, without the fellowshippe and strength of the Lygament that is insensible, & that letteth his great feeling, and bringeth him to a perfect temperaunce, and so the Cordes moue the limmes to the will of the soule. And this Corde is associated with a simple fleshe, and so thereof is made a bzawne or a Muskle, on whom he might rest after his trauell. And this Bzawne is called a Muskle. When when this Corde is entred into this bzawne, he is departed into many small thredes, the which be called wylle. And this wylle hath thre properties: The first is in length, by whose vertue that draweth it hath might: The second in breadth, by whom the vertue that casteth out hath might: The third in thwartnes, in whom the vertue that holdeth hath might: and at the end of the Bzawne those thredes be gathered together to make an other Muskle. &c.

Nowe I will beginne at the Artere. This Artere is a member consimple, simple and spermaticke, hollowe and synowey, hauing his springing from the heart, bringing from the heart to euery member blood and spirite of life. It  
is



is of complexion colde and drye. And all these Arteres haue two cotes, except one that goeth to the Lungs, and he hath but one cote that spreadeth abroad in the Lungs, and bringeth with him to the Lungs blood, with the spirite of life to nourish the Lungs withall: and also that Artere bringeth with him from the lungs ayre to temper the fumous heate that is in the heart. And this Artere is he that is called *Arteria venalis*, because he hath but one cote as a vaine, and is more obedient to be delated abroad through al the lungs, because that the blood might the sooner sweate through him: whereas all other Arters haue two cotes, because one cote may not withstande the might & power of the spirite of life. Diuerse other causes there be, which shalbe declared in the Anatomie of the breast. &c.

The Veyne is a simple member in complexion cold and drye, and spermatike, like to the Artere, hauing his beginning from the Lyuer, and bringing from the Liuer nutritiue blood, to nourish euery member of the body with. And it is so to be vnderstanded that there is no more difference betwæne these two vessels of blood, but that the Artere is a vessel of blood spirituall or vitall. And the Veyne is a vessel of blood nutrimentall, of the which Veynes there is noted two most principall, of the which one is called *Vena porta*, the other is called *venacelis*, of whom it is too much to treat of now, vntill we come to the Anatomie of the wombe. &c.

The flesh is a consimiler member, simple, not spermatike, and is ingendred of blood congeled by heate, and is in complexion hote and moist. Of the which is noted three kindes of flesh: that is to say, one is soft and pure flesh: the second is *muskulus*, or hard & brawny flesh: the third is *glandulus*, knotty, or kurnelly flesh. Also the commodities of the flesh be indifferent, for some be common to euery kind of flesh, and some be proper to one manner of flesh alone.

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The profits of the flesh be many, for some defend the body from colde as doth clothes : also it defendeth the body from harde thinges comming against it : also through his moisture he rectifieth the body in sommer, in time of great heate. Wherefore it is to be considered what profitable-nesse is in euery kind of flesh by himselfe. And first of simple and pure flesh, which fulfilleth the concavities of boyde places, and causeth good soyme and shape : and this flesh is founde betwene the teeth, and on the end of the yard. The profite of the *Brachy* flesh oz *muskulus* flesh, shall be spoken of in the Anatomie of the armes. The profits of the *Glandulus* flesh are these : First, that it turneth the blood into a cullour like to himselfe, as doth the fleshe of a womans paps turne the menstruall blood into milke: secondly, the *Glandulus* flesh of the *Testikles*, turneth the blood into sparme : thirdly, the *Glandulus* flesh of the cheekes, that ingendreth the spittle. &c.

The next is of *Fatnes*, of the which I find three kinds: The first is *Pinguedo*, and it is a consimilar member, not spermatike, and it is made of a subtill portion of blood congeled by colde : and it is of complexion colde and moist, insensible, and is intermedled amongst the partes of the flesh. The seconde is *Adeppes*, and is of the same kinde as is *Pinguedo*, but it is departed from the flesh besydes the skinne, and it is as an oyle heating and moisting the skinne. The third is *Auxingia*, and it is of kinde as the others be, but he is departed from the flesh within foorth about the kidneys, and in the intrayles, and it helpeth both the kidneys and the intrayles from drying by his vntiositie. &c.

Then come we to the skinne. The Skinne is a consimile member oz official, partly spermatike, strong and tough, flexible and sensible, thinne and temperate, Whereof there be two kindes : One is the Skinne that couereth  
the



the outward members: and the other the inner members, which is called a *Wannicle*, the profitablenesse of whom was spoken of in the last Lesson: But the *Skinne* is properly wouen of *Thraides*, *Perues*, *Ueynes*, and *Arteirs*. And he is made temperate, because he should be a good deemer of heate from colde, and of moistnesse from drynesse, that there should nothing noy nor hurt the body, but it giueth warning to the common wits thereof. &c.

The *Hayres* of euery part of mans body are but a superfluitie of members, made of the grosse fume or smoke passing out of the viscoues matter, thickned to the forme of hayre. The profitablenesse of him is declared in the *Anatomie* of the head. &c.

The *Nails* likewise are a superfluitie of members, engendred of great earthly smoke or fume resolved through the naturall heate of humours, and is softer then the Bone, and harder then the *Flesh*. In complexion they be cold and dry, and are always waring in the extremitie of the fingers and toes. The vtilitie of them are, that by them a man shall take the better holde: also they helpe to claue the bodie when it needeth: Lastly, they helpe to deuide things for lacke of other tooles. &c.

### *The Anatomie of the compound members, and first of the head.*

**B**Ecause the head of man is the habitation or dwelling place of the reasonable soule of man, therefore with the grace of God. I shall first speake of the *Anatomie* of the head. *Galen* sayth in the 2. Chapter *De iuuamentes*, and *Auicen* rehearseth the same in his first preposition and third chapter, prouing that the Head of man was made neither for wits, nor yet for the *Waynes*, but onely

for the eyes For beastes that haue no heades, haue the organes or instruments of Wits in their brests. Therefore God and nature haue reared vp the head of man onely for the eyes, for it is the best member of man: and as a beholder or watchman standeth in a high Towre to giue warning of the enemies, so doth the eye of man giue warning vnto the common Wits, for the defence of all other members of the body. Nowe to our purpose. If the question be asked, howe many things be there conteyning on the head, and howe manie thinges conteyned within the head? As it is rehearsed by Guydo, there be but five conteyning, and as manie conteyned: as thus, The Hayre, the Skinne, the Flesh, the Pannicles, and the Bone, neyther rehearsing Veyne nor Artere. The which Anatomie can not be truly without them both, as thou shalt well perceiue both in this Chapter, but specially in the next. And nowe in this lesson I shall speake but of Hayre, Skinne, Flesh, Veynes, Pannicles, and Bones, what profite they doe to man, euerie of them in his kinde. Of the Hayre of the head (whose creation is knowen in the Anatomie of the simple members) I doe note foure vtilities why it was ordeyned: the first is, that it defendeth the Braine from too much heate, and too much cold, and many other outward noyances: The seconde is, it maketh the forme or shap of the head to seeme more seemelier or beautifuller. For if the head were not heyred, the face & the head should seeme but one thing, and therefore the heyre formeth and shapeth the head from the face: The thirde is, that by the cullour of the heyre is witnessed and knowen the complexion of the Braine: The fourth is, that the fumosities of the Braine might assende and passe lightlier out by them. For if there were a sad thing, as the Skinne or other, of the same nature as the heyre is, the fumosities of the braine might not haue passed through it so lightly, as it doth by the hayre.

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The Skinne of the head is more lazarthus, thicker, and more porrus, than any other Skinne of any other member of the bodie. And two causes I note why, One is, that it keepeth or defendeth the braine from too much heat and colde, as doeth the haire: The other, it discusseth to the common wittes of all things that noyeth outwardly, for the heyze is insensible: The third cause, why the Skinne of the head is more thicker then any other Skinne of the body, is this, that it keepeth the braine the more warme, & is the better fence for the brayne, and it bindeth and keepeth the bones of the head the faster together.

Next followeth the flesh, the which is al Musculus or Lazarthus flesh, lying vppon pericranium without meane. And it is made of subtile Mille, and of simple flesh, Synewes, Veines, and Arteirs. And why the flesh that is all musculus or lazarthus in every member of a mans body was made is for three causes: the first is, that by his thicknes, he should comfort the digestion of other members that lye by him: The second is, that through him every member is made the more formelyer, & taketh the better shape: The third is, that by his meanes every member of the body draweth to him nourishing, the which others withhold to put forth from them, as it shalbe more plainlyer spoken of in the Anatomie of the wombe.

Next followeth Pericranium, or the couering of the bones of the head. But here it is to be noted of a Veyne & an Artere that commeth betwene the flesh and this Pericranium, that nourisheth the vtter part of the head, and so entreth priuily through the commissaries of the skull, bearing to the Brayne and to his Mannicles nourishing: of whose substance is made both Duramater, and also Pericranium, as shall be declared in the partes coneyned in the head. Here it is to be noted of this Mannicle Pericranium, that it bindeth or compasseth all the bones of the head,

head, vnto whome is adioyned the Duramater, and is also a part of his substance, howbeit they bee separated, for Duramater is nearer the braine, and is vnder the skull. This Pericranium was made principally for two causes: one is, that for his strong binding together he should make firme and stable the feeble commissaries or seamies of the bones of the head: The other cause is, that it shoulde be a meane betwene the hard bone and the soft fleshy.

Next is the Bone of the Pot of the head keeping in the Braines, of which it were too long to declare their names after all Authoꝝ, as they number them and their names, for some name them after the Greeke tongue, and some after the Arabian, but in conclusion al is to one purpose. And they be numbred seven bones in the pan or skul of the head: the first is called the Cozonal bone, in which is the Orbits or holes of the Eyes, & it reacheth fro the browes vnto the middest of the head, and there it meeteth with the second bone called Occipissial, a bone of the hinder part of the head called the Poddel of the head, which two bones Cozonal and Occipissial be deuided by the Commissaries in the middes of the head. The thirde and fourth bones be called Parietales, and they be the bones of the sideling partes of the head, and they be deuided by the Commissories both from the foresaid Cozonal and Occipissial. The fifth and sixth bones be called Petrola or Mendola: and these two bones lye ouer the bones called Parietales, on euery side of the head one, like skales, in whome be the holes of the eares. The seuenth and last of the head is called Vaxillarie, or Bazillarie, the which bone is as it were a wedge vnto all the other seven bones of the head, and doeth fasten them togeather. And thus be all numbred: the first is the Cozonal bone: The seconde is the Occipissiall: The thirde and the fourth is Parietales: The fifth and the sixth is Petrola or Mendola: and the seuenth  
is



is Parillari, or Bazillari . And this suffiseth for the five things conteynning.

*In this Chapter is declared the five things contayned within the head.*

**N**Ext vnder the bones of the head withinsworth, the first thing that appeareth is Duramater, then is Piamater, then the substance of the Braine, and then Cerny formes and Retemirabile. But first to speake of Duramater, whereof, and how it is sprong & made: first it is to be noted of the Veine and Arterre that was spoken of in the last Chapter before, how priuily they entred thzough the Commissoris or seames of the head, & there by their vnion together, they do not onely bring and giue the spirite of life and nutriment, but also doe weaue themselues so togeather, that they make this pannicle Duramater. It is holden vp by certaine thzædes of himselfe comming thzough the saide commissoris, running in to Pericranium or pannicle that couereth the bones of the head. And with the foresaide Veyne and Arteire, & these thzædes comming from Duramater, is wouen and made this Pericranium. And Why this panicle Duramater is set from the skul, I note two causes: the first is, that if the Duramater should haue touched the skul, it should lightly haue bene hurt with the hardnesse of the bone: The second cause is, that the matter that commeth of woundes made in the head pearcing the skul, should by it the better bee defended and kepte from Piamater, and hurting of the brayne. And nexte vnto this pannicle there is another pannicle called Pia mater, or meeke mother, because it is so softe and tender vnto the brayne. Of whose creation it is to bee noted as of Duramater, for the originall

of their first creation is of one kind, both from the Hart and the Lyuer, & is mother of the very substance of the bzaine. Why it is called *Piamater*, is, for because it is so soft and tender ouer the bzaine, that it nourisheth the bzaine & feedeth it, as doth a louing mother vnto her tender childe or babe, for it is not so tough and harde as is *Duramater*. In this pannicle *Pia mater* is much to bee noted of the great number of *Veynes* and *Arteirs* that are planted, ramesying throughout all his substance, geuing to the bzayne both spirite and life. And this *Pannicle* doth circumsolue or lappe all the substance of the bzayne: and in some places of the bzaine the *Veynes* and the *Arteirs* goe forth of him, and enter into the diuisions of the bzayne, and there drinke of the bzayne substance into them, asking of the heart to them the spirite of life or breath, and of the Liuer nutriment. And the aforesayde spirite or breath taketh a further digestion, and there it is made animal, by the elebozation of the spirite vitall is turned and made animal. Furthermore, why there be no pannicles ouer the bzaine then one, is this, If there had beene but one pannicle onely, eyther it must haue beene harde, or soft or meane betweene both: If it had beene hard, it should haue hurt the bzayne by his hardnesse: if it had beene soft, it should haue bene hurt of the hard bone: and if it had bene but meanelly neither hard nor soft, it should haue hurt the bzayne by his roughnesse, and also haue bene hurt of the hard bone. Therefore God and nature hath ordeyned two pannicles, the one harde, and the other soft, the harder to be a meane betwene the soft and the bone: and the softer to be a meane betwene the harder and the bzaine it selfe. Also these *Pannicles* be colde and drye of complexion, and spermaticke.

Next is the *Bzaine*, of which it is marueilous to be considered and noted, how this *Piamater* deuidenth the substance of the *Bzayne*, and lappeth it into certaine selles or diuisi-



diuisions, as thus : The substance of the Brayne is deu-  
 ded into thre partes , or ventrikles, of which the foremost  
 part is the most : the seconde or middlemost is lesse : the  
 third or hindermost is the least. And fro eche one to other  
 be issues or passages that ar called Meates, thzough whom  
 passeth the spirite of life to and fro. But here yee shall  
 note that euery Ventrikle is diuided into two partes, and  
 in euery parte God hath ordained and set singular and se-  
 uerall vertues, as thus : First in the foremost Ventrikle  
 God hath founded and set the common Wittes, otherwise  
 called the five Wittes, as Hearing, Seeing, Feeling,  
 Smelling, and Tasting. And also there is in one parte  
 of this Ventrikle, the vertue that is called Fantasie, and  
 he taketh all the formes or ordinances that be disposed of  
 the five Wittes, after the meaning of sensible thinges: In  
 the other parte of the same Ventrikle is ordained & found-  
 ded the Imaginative vertue, the which receiueth of the  
 common Wittes the forme or shape of sensitiue things,  
 as they were receiued of the common Wittes withoutforth  
 representing their owne shape and ordinances vnto the  
 memoratiue vertue. In the middest sel or ventrikle there  
 is founded and ordeined the Cogitatiue or estimatiue ver-  
 tue : for hee rehearseth, sheweth, declareth, and deemeth  
 those thinges that bee offered vnto him by the other that  
 were spoken of before. In the thirde Ventrikle and last  
 there is founded and ordeined the vertue Memoratiue: in  
 this place is registred and kept those thinges that are done  
 and spoken with the senses, and keepeth them in his trea-  
 surie vnto the putting forth of the five or common Wittes,  
 or organes, or instruments of animall woorkes, out of  
 whose extremities or lower partes springeth Myelike, or  
 marowe of the spondels : of whome it shalbe spoken of in  
 the Anatomie of the necke and backe. Furthermoze it  
 is to be noted, that from the foremost Ventrikle of the  
 D. brayne

brayne springeth seuen payre of sensatiue or feeling newes, the which be produced to the Eyes, the Eares, the Nose, the Tongue, and to the Stomacke, and to diuers other partes of the bodye: as it shal be declared in their Anatomies. Also it is to bee noted, that about the middest ventrikle is the place of Vermiformis, with curnelly flesh that filleth, and Remirabile, or wonderfull caule vnder the Pannicles, is set or bounded with Arteirs only which come from the heart, in the which the vital spirite by his great labour is turned and made animal. And yee shall vnderstande that these two bee the best kept partes of all the body, for a man shall rather dye, then anye of these shoulde suffer any manner of grieues from without toozth, and therefore God hath set them farre from the heart.

Here I note the saying of Haly Abbas, of the comminge of small Arteirs from the heart, of whome (sayeth he) is made a marueylous net or caule, in the which caule is inclosed the Brayne, and in that place is layde the spirite of feeling, from that place hath the spirite of feeling his firste creation, and from thence passeth to other members &c.

Furthermoze yee shall vnderstande that the brayne is a member colde & moyst of complexion, thin, & meanly viscous, & a pzin cipal meber, & an official meber & spermatik. And first, why he is a pzin cipall member, is, because he is the gouerno2 or the treasurie of the fīue wits: And why he is an official member, is, because he hath the effect of feeling and steri ng: And why he is colde and moyst, is, that he shoulde by his coldnesse and moystnesse abate and temper the exceeding heate and drought that commeth from the heart: Also why it is moyst, is, that it shoulde bee the moze indifferenter and abler to euery thing that shoulde bee reserued or gotten into him: Also why it is softe, is, that it shoulde giue place and fauour to the vertue of steri ng: And why it is meanely viscous, is, that his newes



netwes shoulde bee strong and meanely tough, and that they shoulde not bee letted in their woorking through his ouermuch hardnesse. Here Galen demaundeth a question, which is this, Whether that feeling and moouinge be brought to perues by one or by dyuers? or whether the aforesayde thing bee brought substantially or radically.

The matter (sayeth hee) is so harde to searche and bee understood, that it were much better to let it alone and passe ouer it. Aristotle intreating of the braine, sayeth: The Braine is a member continually moouing and ruling all other members of the bodye, giuing vnto them both feeling and moouinge: for if the Braine bee let, all other members bee let: and if the Braine bee well, then all other members of the bodye bee the better disposed. Also the Braine hath this propertie, that it moueth and followeth the moouing of the Moone: for in the waxinge of the Moone the Braine followeth vptwardes, and in the wane of the Moone the Braine descendeth downwardes, and vanisheth in substance of vertue: for then the braine shrinketh togeather in it selfe, and is not so fully obedient to the spirite of feeling. And this is proued in men that be lunatike or madde, and also in men that bee epilepticke or hauing the falling sicknesse, that bee most grieued in the beginning of the newe Moone, and in the latter quarter of the Moone. Wherefore (sayeth Aristotle) when it happeneth that the Braine is eyther too drye, or too moyst, then can it not woork his kinde: for then is the bodye made colde: then are the spirites of life melted and resolued awaye: and then followeth feblenesse of the Wittes, and of all other members of the bodye, and at the last death.

# A Treasure for The Anatomie of the Face.

**T**HE Front of the Forehead containeth nothing but the Skinne and Musculus flesh, for the pannicle vnderneath it is of Pericranium, and the bone is of the Coronall bone. Howbeit there it is made broad as if there were a double bone, which maketh the forme of the Browes. It is called the Forehead or Front from one eare to the other, and from the rootes of the eares of the head before vnto the browes. But the cause why the browes were set and reared vp, was, that they should defende the Eyes from noyance withoutsoorth: And they be ordained with hayre to put by the humour or sweate that commeth from the head. Also the Browes doe helpe the Eyeliddes, and doe beautifie and make faire the face, for he that hath not his Browes heyled, is not seemely. And Aristotle sayeth, that ouer measurable Browes betokeneth an enuious man. Also high browes and thicke betokeneth hardnesse: and Browes with little hayre betokeneth cowardnesse: and meanly signifieth gentlenesse of heart. Incisions about these partes ought to bee done according to the length of the bodie, for there the Muscle goeth from one Eare to the other. And there if any incision shoulde bee made with the length of the Muscle, it might happen the Browe to hang ouer the Eye without remedie, as it is many times seene, the more pitie. The Browes be called Supercilium in Latine, & vnder is the eyelids, which is called Cilium, & is garnished with hairs. Two causes I find why the eyelids wer ordained: the first is, that they should keepe & defend the Eye from dust & other outward noyances: the second is, when the eye is weary or beaue, then they should be couered & take rest vnderneath the. Why the haire was ordained in the, is, that by them  
is



is addressed the formes or similitudes of visible things vnto the apple of the eye. The eare is a member seemely and gristly, able to be folded without, and is the orgaine or instrument of hearing: It is of complexion colde and drye. But why the eare was set vp out of the head, is this, that the soundes that be very fugitiue, should lurke and abide vnder his shadowe, till it were taken of the instrumentes of hearing: Another cause is, that it should keepe the hole that it standeth ouer from things falling in that might hinder the hearing. The synewes that are the Orgaynes or Instrumentes of hearing, spring each from the Brayne, from whence the seuen payre of synewes doe spring, and when they come to the hole of the Eare, there they wryth like a wine presse, and at the ends of them there be like the head of a worme, or like a little teate, in which is receiued the sounde, and so caried to the common wits. The Eyes be next of nature vnto the soule: for in the Eye is seene and knowen the disturbances and griefes, gladnesse and loyes of the Soule, as loue, wrath, and other passions. The Eyes be the instruments of sight. And they be compounde and made of ten thinges: that is to saye, of seuen Tunicles or Cotes, and of three humours. Of the which (sayth Galen) the Brayne and the head were made for the Eye, that they might be in the hyghest place, as a beholder in a towre, as it was rehearsed in the Anatomie of the head. But diuers men holde diuers opinions of the Anatomie of the Eyes: for some men account but three tunicles and some sixe. But in conclusion they meane all one thing: For the very truth is, that there be counted and reckoned seuen Tunicles, that is to say, Sclerotica, Secondyna, Retyna, Vnia, Cornua, Arania, and Coniunctina: and these three humours, What is to say, humor Vitrus, humor Albigynus, and humor CrySTALLINUS. It is to be knowen how and after what manner they spring: You shall vnderstande that there

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springeth

springeth of the brayny substance of his foremost Ventricks, two senewes, the one from the right side, and the other from the left, and they be called the first payre, for in the Anatomie they be the firste payre of senewes that appeare of all seuen. And it is shewed by Galen, that these senewes be hollowe as a reede, for two causes: The first is, that the visible spirite might passe freely to the Eyes: The seconde is, that the forme of visible thinges might freely be presented to the common wittes. Nowe marke the going forth of these senewes: When these senewes goe out from the substance of the Brayne, he cometh through the Diamater, of whose substance hee taketh a Pannicle or a Cote: and the cause why hee taketh that Pannicle is to keepe him from noying, & befoze they enter into the skull, they meete and are vnited into one senewe the length of halfe an inche: and then they departe againe into two, and eche goeth into one eye, entering through the brayne panne, and these senewes be called Nerui optici. And thre causes I finde why these Perues are ioyned in one befoze they passe into the Eye: First, if it happen any diseases in one eye, the other should receiue all the visible spirite that befoze came to bothe: The seconde is, that all thinges that wee see shoulde not seeme two: for if they had not bene ioyned together, euery thing shoulde haue seemed two, as it doth to a woyme, and to other beastes: The thirde is, that the Senewe might stay and helpe the other. But herevpon Lamfranke accordeth much, saying, that these two Senewes come together to the Eyes, and take a Pannikle both of Diamater and of Duramater, and when they enter into the Orbyt of the Eye, there the extremities are spread abroad, the which are made of thre substances: that is to saye, of Duramater, of Diamater, and of Nerui optici. There be engendred thre Tunikles or Cotes, as thus: Of the substance



stance that is taken from Duramater is ingendred the first  
 cote that is called Secondina: and of Nerui optici is in-  
 gendred the thirde cote that is called Retina: and eche of  
 them is moze subtiler then other, and goeth about the  
 humours without meane. And it is to be vnderstood, that  
 eche of these thre Tunicles be deuided, and so they make  
 fire: that is to say, iij. of the partes of the brayne, and thre  
 of the parts outwards, and one of Pericranium that coue-  
 reth the bones of the head, which is called Coniunctiua.  
 And thus you maye perceiue the springing of them: as  
 thus, of Duramater springeth Sclerotica and Cornua: of  
 Piamater springeth Secondina and Unia: and of Nerui  
 optici springeth Coniunctiua. Now to speak of the humours  
 which be thre, & their places are the middle of the Eyes:  
 of the which the first is Humor Vitrus, because he is like  
 glasse, in colour very cleare, red, liquit, or thinne, & he is in  
 the inward side next vnto the brayne: and it is thinne, be-  
 cause the nutritiue blood of the Chistalin might passe, as  
 water through a sponge should be clenched & made pure, and  
 also that the visible spirit might the lightyer passe through  
 him from the brayne. And he goeth about the Cristaline  
 humour, vntil he meete with Albuginus humour, which is  
 set in the vttermost part of the Eye. And in the middell of  
 these humours Vitrus, & Albuginus, is set the Crystaline  
 humour, in which is set principally the sight of the Eye.  
 And these huinozs be separated & inuolued with the Pan-  
 nicles aforesaid, betweene every Humor a Pannicle.  
 And thus is the Eye compound and made. But to speake of  
 every Humour and euery Pannicle in his due order and  
 course, it would aske a long processe, and a long Chapter,  
 and this is sufficient for a Chirurgion. Now to begin at  
 the Nose: You shall vnderstand that from the brayn there  
 cometh two senewes to the holes of the brainpan, where  
 beginneth the concauitie of the Nose, and these two be not  
 pro

properly synewes, but organes or instrumentes of smelling, and haue heades like teates or paps, in which is received the vertue of smelling, and representing it to the common wits. Over these two is set Colatorium, that we call the Nostrils: and it is set betwene the Eyes, vnder the vpper part of the Nose. And it is to be noted, that this concauitie or ditch was made for two causes: The first is, that the ayre that bringeth forth the spirite of smelling might rest in it, till it were taken of the organie or instrument of smelling: The second cause is, that the superfluties of the Brayne might be hidden vnder it, vntill it were clenched: And from his concauitie there goeth two holes downe into the mouth, of which there is to be noted three profits: The first is, that when a mans mouth is close, or when he eateth or sleepeth, that then the ayre might come through them to the Lungs, or els a mans mouth should alwayes be open: The seconde cause is, that they helpe to the relation of the forme of the Nose: for it is sayde, a man speaketh in his Nose when any of these holes be stopped: The third cause is, that the concauitie might be clenched by them when a man snuffeth the Nose, or draweth into his mouth inwardly. The Nose is a member consimple or officiall, appearing without the face, somewhat plicable, because it should the better be clenched. And it is to be perceived that it is compound and made of skin & cartilaginous flesh, and of two bones standing in maner trianglewise, whose extremities be ioyned in one part of the Nose with the Coronall bone, and the nether extremities are ioyned with two grystles, and another that diuideth the Nostrils within, and holdeth vp the nose: Also there be two concauities or holes, that if one were stopped the other should serue: Also there is in the Nose two Muskles, to helpe the working of his office. And Galen sayth, that the Nose shapeth the Face most: for where the Nose lacketh (sayth he)

all



all the rest of the face is the more vnseemely. The Nose should be of a meane bignes, and not to excede in length, or breadth, nor in highnes. For Aristotle sayth, if the Nose, thylles be too thinne, or too wyde, by great drawing in of ayre, it betokeneth great straightnesse of heart, and indignation of thought. And therefore it is to be noted, that the shape of the members of the bodie, betokeneth and iudgeth the affections and will of the Soule of man, as the Philosopher sayeth. The temples be called the members of the head, and they haue that name because of continuall mouing. And as the science of the Anatomie meaneth, the spirite vital is sent from the heart to the brayne by Arteries, and by veines and nutrimentall blood, where the vessels pulsatiues in the temples be lightly hurt. Also the temples haue dents or holes inwardly, wherein he taketh the humour that commeth from the brayne, and bringeth the eyes aslaepe, and if the saide holes or dentes be pressed and wounding, then by trapping of the humour that continueth, he maketh the teares to fall from the Eye. The Cheekes are the sideling partes of the face, and they conteyne in them Musculus flesh, with Veines and Arteries, and about these partes be many Muscles. Guido maketh mention of vij. about the cheekes and ouer lip. And Haly Abbas sayeth, there be twelue muscles that moue the nether Jawe, some of them in opening, and other some in closing or shutting, passing vnder the bones of the temples, And they be called Temporales: And they bee right noble and sensatiue, of whose hurt is much peril. Also there be other Muscles for to grinde & to chewe. And to all these Muscles commeth Perues from the brayne to giue them feeling and mouing: and also there commeth to them many Arteries and Veines, and chiefly about the temples, and the angles or corners of the Eyes and the Lippes. And as the Philosophers saye, the chiefe beautie in man is in the

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cheekes,

cheekes, and there the complexion of man is most knowe, as thus: If they be full, ruddy and medled with temperate whitenesse and not fat in substance, but meanly fleshy, it betokeneth hoat and moyst of complexion, that is, Sanguin and temperat in coller. And if they bee white coloured, without medling of rednesse, and in substance fat and soft, quauering, it betokeneth excelle & superfluitie of colde and moyst, that is flegmatike: And if they be brown in colour, or cytrin, yelow, redde, and thinne, and leane in substance betokeneth great drying and heate, that is cholericke: And if they be as it were blowen in colour, & of litle flesh in substance, it betokeneth excelle and superfluitie of drynes and cold, and that is Melancolie. And as Auicen sayeth, the Cheekes doe not onely shewe the diuersities of complexion, but also the affection and wil of the hart: for by the affection of the heart, by sodaine ioye or dread, hee wareth either pale or redde. The bones or bonye partes, first of the cheekes be two: of the Nose outwardly, two: of the vpper Mandible, two: within the Nose thre: as thus, one diuiding the Nose thills within, and in each Nostrill one, and they seeme to be rowled like a wafer, and haue a hollownesse in them, by which the ayre is respired & drawed to the Lungs, and the superfluitie of the Brayne is purged into the mouthwardes, as is before rehearsed. But Guydo and Galen saye, that there be in the face nyne bones, yet I cannot finde that the nether Mandible should be of the number of those nyne: for the nether Mandible accompted there, proueth them to be ten in number. Of which thing I will hold no argument, but remit it to the sight of your eyes. The partes of the mouth are five, that is to saye, the Lippes, the teeth, the tongue the Vula, and the Pallet of the mouth. And first to speake of the lippes, they are members consimile or officiall, full of Musculus flesh, as is aforesaide, and they were ordeined for two causes,



causes, one is, that they shoulde be to the mouth as a doore to a house, and to keepe the mouth close til the meate were kindly chewed: The other cause is, that they shoulde bee helpers to the pronouncing of the speache. The teeth are members consimile oꝝ officiall, spermatike, and hardest of any other members, and are fastened in the cheeke bones, & were ordayned foꝝ thre causes: First that they shoulde chewe a mans meat, er it shoulde passe down, that it might be the sooner digested: The seconde, that they shoulde be a helpe to the speach, foꝝ they that lacke their teeth doe not perfectly pronounce their woꝝdes: the thirde is, that they shoulde serue to beastes as weapons. The number of them is vncertaine, foꝝ some men haue mo, and some lesse, they that haue the whole number haue xxxij. that is to saye, xvi. aboue, and as many beneath, as thus: two Dwallies, two Quadripulles, two Cannines, eight Morales, & two Can-fales. The Tongue is a carnous member, compounde & made of manye Perues, Lygaments, Veynes, and Ar-teirs, ordayned principally foꝝ thre causes: The first is, that when a man eateth, the Tounge might helpe to turne the meate til it were well chewed: The seconde cause is, that by him is receiued the taste of swete and sower, and presented by him to the common wittes: The thirde is, that by him is pronounced euery speache. The fleshy part of the tongue is white, and hath in him nine muskles, and about the roote of him is Glandulus, in the which be two welles, and they be euer full of spittle to temper and keepe moyst the tongue, oꝝ else it woulde ware die by reason of his labour, &c. The Uula is a member made of a spon-gious flesh, hanging downe from the ende of the Pallet ouer the gullet of the throat, and is a member in complexion colde and drie, and often tymes when there falleth rawnesse oꝝ much moystnesse into it from the head, then it hangeth downe in the throat, and letteth a man to

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swallow,

Swallowe, and it is broad at the vpper ende, and small at the nether. It was ordeined for diuerse causes, One is, that by him is holpen the sounde of speache, for where the Vuila is lacking, there lacketh the perfect sound of speach. Another is, that it might helpe the pꝛolation of vomites: Another is, that by him is tempered & abated the diffemperance of the ayre that passeth to the Lungs: Another is, that by him is guided the superfluities of the brayne that commeth from the coletures of the Nose, or else the superfluities should fall downe suddenly into the mouth, the which were a displeasure. The Pallet of the mouth conteineth nothing else but a carnous Pannikle, & the bones that be vnderneath it haue two diuisions, One along the Pallet from the diuision of the Nose, & from the opening of the other Mandible vnto the nether ende of the Pallet, lacking halfe an inche, and there it denideth ouerthwart, and the first diuision is of the Mandible, and the seconde is of the bone called Parillarie or Bazillarie, that sustayneth and byndeth all other bones of the head together. The skinne of the Pallet of the mouth is of the inner part of the stomacke and of Myze, and of Esophagus, that is the way of the meate into the stomacke. The way howe to knowe that such a pannicle is of that part of the stomacke, may be knowen when that a man is touched within the mouth, anon he beginneth to tickle in the stomacke, and the nēer that he shall couche vnto the throte, the more it abhorreth the stomacke, and often times it causeth the stomacke to yeeld from him that is within him, as when a man doeth vomite. Also in the mouth is ended the vppermost extremitie of the Mesande, which is called Myze or Esophagus, And with him is contayned Trachia arteria, that is, the waye of the ayre whose holes be couered with a lap like a tongue, and is gristly, that the meate and drinke might slide ouer him into Esophagus: The which  
gristle



gryffe when a man speaketh it is reared vp, and conereth the waye of the meate: and when a man swalloweth the meate, then it couereth the way of the ayze, so that when the one is couered the other is discouered. For if a man open the waye of the ayze when he swalloweth, if there fall a crum into it, he shall neuer cease coughing until it be vp againe. And this suffiseth for the face.

*The Anatomie of the Necke.*

**T**HE Necke followeth next to be spoken of. Galen p<sup>ro</sup>oueth that the necke was made for no other cause but for the Lungs, for al things that haue no Lungs haue neither necke nor voyce, except fish. And you shall vnderstande, that the necke is all that is conteyned betwene the head and the shoulders, and betweene the chin and the brest. It is compounde and made of foure things, that is to saye, of Spondillus, of Seruicibus, of Gula, and of Guttare, the which shal be declared moze plainly hereafter, and thzough these passe the waye of the meate and of the ayze, but they bee not of the substance of the necke. The Spondels of the necke be seuen: The first is ioyned vnto the lower parte of the head, called Maxillarie or Bazillarie, and in the same wise are ioyned euery Spondel with other, and the last of the seuen with the firste of the Backe or Kidge: and the Lygamentes that keepe these Spondels together are not so harde and tough as those of the backe: for why? those of the necke be moze seabler and subtiller: The cause is this, for it is necessarie otherwile that the head moue without the necke, and the neck without the head, the which might not well haue bene done if they had bene strong and boystrous. Of these aforesayde seuen Spondels of the necke, there springeth seuen payze

of Senewes, the which be deuided into the head and into the Upsage, to the shoulders, and to the armes. From the hole of the first spondel springeth the first payre of Senewes, betwæne the first spondel and the seconde, and so fourth of all the rest in like manner as of these. Also these senewes receiue subtil wille of the senewes of the Brayn, of the which wille, & senewes, and flesh, with a pannicle, make the composition of Muskels, Lazartes, & Brawnes, the which threë things are all one, and be the instruments of voluntarie mouing of euery member. The Muskels of the necke after Galen are numbred to be xx. mouing the head and the necke. Likewise it is to be noted, that there bee threë manner of fleshes in the necke: the first is Pixwex or Seruiss, and it is called of Childzen Gold hayre, or yellowe haire, the which are certaine longitudinales lying on the sides of the Spondels from the head downe to the latter Spondel. And they are ordained for this cause, that when the Senewes bee wearie of ouermuch labour with mouing and trauayle, that they might rest vpon them as vpon a bedde. The seconde flesh is musculus, from whome springeth the Tendons and cordes that moue the head and the necke, which be numbred twentie, as is afoze declared: The thirde flesh replenisheth the voyde places, &c. The thirde parte of the necke is called Guttur, and it is the standing out of the Throte boll. The fourth parte is called Gula, and the hinder parte Ceruix, and hath that name of the Philosophers because of the marrowe coming to the Kidge bones. It is so called, because it is as it were a seruauant to the Brayne: For the necke receiueth and taketh of the Brayne influence of vertue of mouing, and sendeth it by Senewes to other partes of the bodie downwardes, and to all members of the bodie. Here you shall vnderstande, that the waye of the meate, and Pire, or Esophagus is all one thing, and it is to be noted,



ted, that it stretcheth from the mouth to the stomacke, by the hinder parte of the necke inwardlye, fastned to the spondels of the necke, untill hee come to the fifth spondel, and there hee leaueth the spondel and stretcheth til he come to the foremost parte of the brest, and passeth through Diaphragma til it come to the mouth of the stomacke, and there he is ended. Furthermoze, it is to be noted, that this Mesenterie is compounde and made of two Tunikes or Cotes, that is to saye, of the inner, and of the vtter. The vtter Tunike is but simple, for he needeth no retention but onely for his owne nourishing; but the inner Tunike is compounde and made of Musculus Longitudinalis, by which he may drawe the meat from the mouth into the stomacke, as it shall be moze plainly declared in the Anatomie of the stomacke. Furthermoze, Cana pulmonis via trachia arteria, all these be one thing, that is to saye, the throte boll, and it is set within the necke besides the Mesenterie towarde Gula, and is compounde of the gyfte knitte eache with other. And that pannicle that is meane betwene the Mesenterie and the throte boll, is called Ismon. Also yee shall vnderstand, that the great Veines which ramesse by the sydes of the necke to the upper part of the head, is of some men called Gwidege, and of others Vena organicae, the incision of whome is perilous. And thus it is to be considered, that the Necke of man is compounde and made of skinny flesh, Ligaments and bones. And this sufficeth for the Necke & the throte.

### *The Anatomie of the Shoulders and Armes.*

**A**ND first to speake of the bones: It is to be noted, that in the shoulder there be two bones, that is to saye, the shoulder bone, and the Cannel bone

bone, and also the adiutoꝝ bone of the arme are ioyned with the Shoulder bones, but they are not numbꝛed among them, but amongst the bones of the armes. In the composition of the shoulder, the first bone is Os spatula, oꝝ shoulder blade, whose hinder part is declined towarde the chinne, and in that end it is broad and thinne, and in the vpper part it is rounde, in whose roundnesse is a concauitie, which is called the bore oꝝ coope of the shoulder, into which entereth the Adiutoꝝ bones, and they haue a bynding together with strong flexible Sene wes, and are conteyned fast with the bone called Clauicula, oꝝ the Cannel bone: and this Cannel bone stretcheth to both the shoulders, one ende to the one shoulder, and another to the other, & there they make the composition of the shoulders. The bones of the great arme, that is to say, from the shoulder to the fingers endes, be xxx. The first is the Adiutoꝝ bone, whose vpper ende entrecly into the concauitie oꝝ bore of the shoulder bone: It is but one bone hauing no felow, and it is hollowe and full of marowe, and it is also crooked because it should be the moze habler to grype thinges, and it is hollowe because it shoulde bee lighter and moze obedient to the steering oꝝ moving of the Bras bones. Furthermoze, this bone hath two emynences, oꝝ two knobs in his nether extremitie, oꝝ in the iuncture of the Elbowe, of the which the one is moze rising than the other, and are made like vnto a Holly to drawe Water with, and the endes of these bones enter into a concauitie proportioned in the vppermost endes of the the two Hocol bones, of which two bones, the lesse goeth from the Elbowe to the Thumbe, by the vppermoste parte of the arme, and the greater is the nether bone from the Elbowe to the little finger. And these two bones bee conteyned with the Adiutoꝝ bone, and bee bounde with strong Ligamentes, and in like manner with the bones of the hande.



hande. The which bones be numbred. viii. the so are upper, most bee ioyned with the foure nethermost towarde the handes: and in the thirde warde of bones, be fyue, and they are called Ossa patinis, and they are in the palme of the hand. And to them be ioyued the bones of the fingers, and the Thombes, as thus, in euery finger is bones, and in the Thombe two bones, that is to say, in the fingers and thombe of euery hand, iiii. called Ossa digitorum, in the palme of the hand. v. called Patinis, and betweene the hand and the wrist. vii. called Racete, and from the wrist to y shoulder. iii. bones: all which being accompted together, ye shall finde thirtie bones in eche hand and arme. To speake of Senewes, Lygamentes, Cordes, and Braunes: Heere first ye shall vnderstande that there cometh from Synu- ca thorough the Spondels of the necke iij. senewes, which most plainlie doe appeare in sight, as thus, one cometh in to the upper parte of the arme, another into the nether part and one into the inner side, and another into the vtter side of the arme, and they bring from the braine and from Synu- ca both feeling and moving into the armes, as thus: The Senewes that come from the braine and from the Marrow of the backe that is called Synuca, when they come to the iuncture of the shoulder, there they are mixed with the Ly- gaments of the selfe shoulder, and there the Lygamentes receaue both feeling and moving of them, and also in their medling together they are made a Corde or a Tendo. The causes I finde why the senewes were medled with the Ly- gaments, The first cause is, that the excellent feeling of the senewes, which many wayes he made, wery by their con- tinuall moving, should be repressed by the insensiblenesse of the Lygamentes: The seconde is, that the littlenesse of the Synewes should be fulfilled through the quantite of the Lygamentes: The thrid is, the feblenesse of the Se-  
newe

new, that is insufficient and too feeble to use his offices, but by the strength and hardnesse of the Lygamentes. Now to declare what a Corde is, what a Lygament, and what a Muscle or a Brawn, it is indough rehearsed in the Chapter of the simple members. But if you will thorough the commandment of the Will or of the Soule, drawe the arme to the hinder part of the body, then the outer Brawne is drawen together, and the inner is enlarged, and likewise in wardes, when the one Brawne both drawe in wardes: the other both stretch, and when the arme is stretched in length then the Cordes be lengthened: but when they passe the iuncture of the shoulder and of the elbowe, by three fingers breadth or thereabout, then it is deuyded by subtil Wyll, and medled with the simple fleshe, and that which is made of it is called a Brawne. And these causes I finde why that the simple fleshe is medled with the Corde in the composition of the Brawne: The first is, that the wyll might drawe in quyet through the temperance of the fleshe: The second is, that they temper and abate the drought of the cord with his moisture, the which drought he getteth through his manifold moving: The thirde is, that the forme of the Brawn members should be the more fayre, and of better shape: wherefore God and nature haue clothed it with a Pannicle that it might the better be kept. And it is called of the Philosophers Musculus, because it hath a forme like vnto a Mouse. And when these Brawnes come nere a Joynt, then the Cordes spring forth of them, and are medled with the Lygamentes againe, and cometh that Joynt. And so ye shall vnderstand, that alwayes betwene every two Joyntes is engendred a Brawne, proportioned to the same member and place vnto the last extremitie of the fingers, so that aswell the least iuncture hath a proper seeking and moving when it needeth, as hath the greatest



greatest. And after Guydo there be numbred thirteene in the arme and hande, as thus. *iiij.* in the *Adiutor*, moving the upper part of the arme: and *iii.* in the *Forcels*, moving that part of the arme: and *fyve* in the hande, moving the fingers. Nowe to speake somewhat of the Veines and Arteries of the arme: it is to be understood, that from *Yellakelis* there commeth two braunches, the one commeth to the one arme pyt, and the other commeth to the other. And nowe marke the spreading, for as it is of the one, so it is of the other, as thus. When the braunche is in the arme pyt, there he is divided into two Braunches. The one Braunche goeth along in the inner side of the arme, until it come to the bough of the arme, and there it is called *Basilica* or *Epatica*; and so goeth downe the arme till it come to the wrist, and there it is turned to the backe of the hand, and is found between the litle finger and the next, and there is called *Saliatella*. Now to the other braunche that is in the arme hole, which spreadeth to the vpper side of the shoulder, and there he divideth in two, the one goeth spreading vpper into the earne parte of the heade, and after descendeth through the bone in to the brayne, as it is declared in the Anatomy of the head: The other braunche goeth on the outward side of the arme and there he is divided in two also, the one part is ended at the hand, and the other parte is folded about the Arme, till it appeare in the bough of the arme; and there it is called *Sephalica*, from thence it goeth to the back of the hand, and appeareth between the Thombe and the smallest finger and there it is called *Sephalica ocularis*. The two braunches that I spake of, which be divided in the vpper parte of the shoulders, from ech of these two (I say) to yndertwo, and those two make together and make one veine which appeareth in the bough of the arme, and there it is called *Mechana* or *Cordialis*, or *Commune*.

And thus it is to be understood, that of vena Sephalica springeth vena occularis, and of vena Bazilica springeth vena Saluatella, and of the two veynes that mate springeth vena Mediana, and in rameshing from these fyve principall Veines springeth innumerable, of the which a Chirurgion hath no great charge, for it sufficeth vs to knowe the principals.

To speake of Artiers, you shall understand, that where soeuer there is founde a Veine, there is an Arteir vnder him: and if there be founde a great Veyne, there is founde a great Arteir, and whereas is a litle Veyne there is a litle Artier: For wher soeuer there goeth a Veine to giue nutriment, there goeth an Artier to bring the spirit of life. Wherefore it is to be noted, that the Artiers lye moze deeper in the fleshe then the Veynes doe: for they cary and keepe in them moze precious blode then doth the Veyne, and therefore he hath neede to be further from dangers outwardly: and therefore God and nature haue ordeyned for him to be closed in two rotes, where the Veyne hath but one. &c.

The best of Thorax is the Arke or chest of the spirituall members of man, as saith the Philosopher: where it is to be noted, that there be foure things containing, and being contained, as thus, The foure containing, are, the Skinne, Musculus fleshe, the Pappes, and the bones: The partes conteyned, are, the Harte, the Linges, Varnicles, Ligamentes, Perues, Veynes, Artiers, Mire or Esophagus. Now the skinne and the fleshe are knowne in their Anatomye: It is to be noted, that the fleshe of the Pappes, differeth from the other fleshe of the body, for it is white, glandulus, and spongiuous: and there is in them both Perues, Veines and Arteirs, and by them they haue Coliganes with the hart, the Luyver, the braine, and the generatiue members. Also ther is in the breste, as olde Authoys make mention, lxxx. or xc.

Muskels



Muskeles, for some of them be common to the Pecke, some to the shouleres, and to the Spades, some to diafragma or the Wydriffe, some to the Ribbes, some to the backe and some to the Brest it selfe. But I find certaine profitable-nesse in the creation of the Paps, aswell in man as in woman: for in man it defendeth the spirituales from annoyance outwardly: and another, by their thicknes they comfort the naturall heate in defence of the spirits. And in women there is the generation of milke: for in woemen there cometh from the Matrix into their Brestes many veyns which bring into them Menstruall blode, the which is tourned through the digestive vertue from red colour into white like the colour of the Pappes, even as Chylley comming from the stomacke to the Luer is tourned into the colour of the Luer. Nowe to speake of the bones of the brest: they be saide to be triple or threefolde, and they be numbred to be seauen in the Breste before, and their lengthe is according to the breadth of the brest, and their extremities or endes be gyslye, as the ribbes be. And in the upper ende of Thorax is an hole or a concauitie, in which is sette the foote of the Forklebone or Canel bone, and in the nether ende of Thorax, against the mouth of the stomach, hangeth a gysle called Ensiforme, and this gysle was ordeined for two causes: One is, that it should defende the stomach from hurte outwardly: The second is, that in time of fullnesse it should geue place to the stomach in time of neede when it desireth. &c.

Now to speake of the partes of the backe behynde: There be twelue Spondels, through whom passe: h Wynera, of whom springeth xij. paire of Nerues, bringing both feeling and mouing to the Muscles of the Brest aforesayde. And here it is to be noted. that in euery side ther be twelue Ribbes, that it is to say. vij. true and v. false, because these

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for he not so long as the other seauen be, and therefore  
 called false Ribbos, as it may be perceived by the sight  
 of the eye. Likewise of the partes that be inwardlye, and  
 first of the Harte, because he is the principall of all o-  
 ther members, and the beginning of lyfe: he is set in  
 the midst of the brest senerally by him selfe, as Lord and  
 King of all members. And as a Lord or King ought to be  
 serued of his subiectes that haue their liuing of him: So are  
 all other members of the body subiects to the Hart, for they  
 receiue their liuing of him, and they do seruice many wayes  
 vnto him again. The substance of the Hart, is as it were  
 Lazarus fleshe, but it is spermatike, and an officiall mem-  
 ber, and the beginning of lyfe, and he geneth to every mem-  
 ber of the body, both bloude of lyfe: and spirit of breath and  
 heate: for if the hart were of Lazarus fleshe, his mouing &  
 steering should be voluntary and not naturall, but the con-  
 trary is true, for it were impossible that the Harte should be  
 ruled by Wyll onely, and not by nature. The Harte hath  
 the shape and forme of a Wyneape, and the broad ende ther-  
 of is vpwordes, and the sharpe end is downewordes, depen-  
 ding a litle towarde the left side. And here it is to be no-  
 ted, that the Harte hath blood in his substance, whereas all  
 other members haue it but in their Veines and Arteries: al-  
 so the Hart is bound with certaine Lygaments to the back  
 part of the Brest, but these Lygaments touche not the sub-  
 stance of the Harte, but in the ouerpart they spring from  
 of him, and is fastened, as aforesayd. Furthermoze the hart  
 hath two ventricles, or concavities, and the left is hyer then  
 the righte, and the cause of this holowenelle is this, for to  
 keepe the bloud for his nourishing, and the aire to abate and  
 temper the greate heate that he is in, the which is kept in  
 concavities. Nowe here it is to be noted, that to the right  
 Ventrikle of the Harte commeth a Veyne from the greate  
 Veyne



Veyne called Venakelis, that receaueth all the substance  
 of the blood from the Lyuer. And this veyne that cometh  
 from Venakelis entreth into the hart at the right Ventricle  
 as I sayd before, and in him is brought a great portion of y  
 thickest blood, to nourishe the harte with, and the residue  
 that is left of this, is made subtil through the vertue of the  
 harte, and then this blood is sent into a concauitie or pytte  
 in the middell of the harte betwene the two Ventricles,  
 and therein it is made hote and pured, and then it passeth  
 into the left Ventricle, and there is engendred in it a spirit  
 that is clearer, brighter, and subtiler then any corporall or  
 bodyly thing that is engendred of the four elementes: for  
 it is a thing that is a meane betwene the body and the soule  
 wherefore it is likened of the Philosophers to be more li-  
 ke heauenly thinges, then earthly thinges. Also it is to be  
 noted, that from the left Ventricle of the harte, springeth  
 two Arteries: The one hauing but one cote, and therefore it  
 is called Arteria Venalis. And this Arterie carrieth blood fro  
 the harte to the Lunge, the which blood is vaporous, that  
 is tried and left of the harte, and is brought by this Arterie  
 to the Lungs to geue him nutriment: where he receaueth  
 of the Lungs ayre, and bringeth it to the harte to refreshe  
 him with. Wherefore Galen sayth that he findeth that mans  
 harte is natrall and frendly to the Lungs, for he geueth  
 him of his owne nutrimentall to nourishe him with, and  
 the Lungs rewarde him with ayre to refreshe him with  
 againe. etc. The other Arterie that hath two cotes, is  
 called Vena Arterialis, or the great Arterie that ascendeth  
 and descendeth, and of him springeth all the other Arteries  
 that spreade to every member of the body, for by him is uni-  
 fied and quickned all the members of the body. for the spi-  
 rit that is retained in them, is y instrument or treasure of all  
 the vertue of the soule. And thus it passeth vntill it come to  
 the

the Braine, and there he is turned into a further digestion, and there he taketh another spirit, and so is made animal, and at the Luer nutrimentall, and at the testicles generative: and thus it is made a Spirit of euery kinde, so that he being meane of al maner operations and workings taketh effect. Two causes I finde why these Artiers haue two cotes, One is, that one cote is not sufficient nor able to withstand the violent mouing and steering of the spirit of lyfe that is caried in them: The seconde cause is: that the thing that is caried about from place to place, is of so precious a treasure that it had the more need of good keeping. And of some Doctors, this Artier is called the Pulsatiue veyne, or the beating veyne, : for by him is perceyued the power & might of the Hart. &c. Wherefore God and Nature haue ordained that the Artiers haue two cotes, Also there is in the Harte three Belikeles, opening and closing the going in of the Harte blood and spirit in conuenient time. Also the harte hath two litle Cares, by whom commeth in and passeth out the aire that is prepared for the Lungen. Also ther is found in the Harte a Cartilaginus Auditament, To helpe and strength the selfe Harte. Also the Harte is covered with a strong Mannicle, which is called of some Capsula Cordes, or Pericordium, the which is a strong case, vnto whome commeth Perues, as to other inwarde members. And this Mannicle Pericordiū springeth of the vpper Mannicle of y Midriffe. And of him springeth an other Mannicle called Mediastinum, the which departeth the brest in the midst, and keepeth that the Lungen fall not ouer the Harte. Also there is an other Mannicle that couereth the Ribbes inwardlye, that is called Plura, of whome the Midriffe taketh his beginning. And it is said of many Doctors, that Duramater is the originall of all the Mannicles within the body: and thus one taketh of an other,

The



## The Anatomie of the Lungs.

**T**H E Lungs is a member spermatike of his first creation, and his naturall complexion is colde and drye, and in his accidentall complexion he is colde and moyste, lapped in a Peruous Mannicle, because it should gather together the softer substance of the Lungs, and that the Lungs might feele by the meanes of the mannicle, that which he might not feele in him selfe. Nowe to proue the Lungs to be colde and drye of kind, it appeareth by his swift skæring, so he lyeth euer wauiing ouer the heart, and about the heart. And that he is colde and moyst in rewarde, it appeareth well, that he receiueth of the brayne many colde matters, as Cataries, and Rumes, whose substance is thinne. Also I finde in the Lungs three kindes of substance: One is a Veyne comming from the Liuer, bringing with him the Crude or rawe parte of the Chylle to feede the Lungs: Another is Arterea venealis, coming from the heart, bringing with him the spirite of life to nourish him with: The thirde is Trachia arteria, that bringeth in ayre to the Lungs, and it passeth through all the left part of them to doe his office. The Lungs is deuided into five Lobbes or Pellikels, or five portions, that is to saye, three in the right side, and two in the left side. And it was don for this cause that if there fel any hurt in the one part, the others should serue and doe their office. And three causes I find why the Lungs were principally ordeined: First, that they should draw cold wind, & refresh the heart: The second, that they should change & alter, and purifie the aire before it come to the heart, least the heart were hurt & moyed with the quantitie of the aire: The third cause is, that they should receiue from the hart the fumes  
G. super,

superfluities that he putteth forth with his breathing, &c. Behind the Lungs toward the Spondels, passeth *Wre* or *Esophagus*, of whom it is spoken of in the Anatomie of the neck. And also there passeth both *Veines* and *Arteirs*, & al these with *Trachia arteria*, doe make a *Stoke*, replete vnto the Gullet with *Pannikles*, and strong *Lygaments*, and glandulous flesh to fulfil the voyd places. And laste of al is the *Widziffe*, and it is an officiall member, made of two *Pannikles*, and *Lazartus* flesh, and his place is in the middest of the body, ouerthwart or in bredth vnder the region of the spirituall members, departing them from the matrix. And thre causes I finde why the *Widziffe* was ordained: First, that it should diuide the spirituals from the nutrates: The second, that it should keepe the vital colour or heat to dissend down to the nutrates: The last is, that the malicious fumes reared vp from the nutrates, shoulde not noy the spirituals or vitals &c.

The womb is the region or the citie of all the *Intrails*, the which reacheth from the *Widziffe* down vnto the *Share* inwardly, and outwardly from the *Keynes* or *Rydnies*, down to the bone *Pecten*, about the priuie partes. And this womb is compound and made of two things, that is to say, of *Syfac* and *Myrac*. *Syfac* is a *Pannicle*, and a member *spermatik*, official, sensible, sensowy, compound of subtil wil, and in complexion cold and dry, hauing his beginning at the inner *Pannicle* of the *Widziffe*. And it was ordained because it should conteine and bind together all the *Intrails*, and that he defende the *Musculus* so that hee oppresse not the natural members. And that he is strong & tough, it is because he should not be lightly broken, & that those things that are conteyned go not forth, as it happeneth to them that are broken, &c. *Myrac* is compound and made of foure things, that is, of skin outwardly, of fatnes, of a carnous *pannicle*, and of *Musculus* flesh. And that it is



is to be vnderſtanded, that all the whole from Syfac out-ward is called Myrac, it appeareth well by the wordes of Galen, where he commaundeth, that in all wounds of the wombe to ſewe the Sifac with the Myrac, and by that ſit pꝛoueth that there is nothing without the Sifac but Myrac. And in this Myrac oꝝ vtter part of the wombe, there is noted eight Muscles, two Longitudinals. pꝛocēding from the ſhēld of the Stomacke vnto Os Pecten: two Latitudinals comming from the backwardes to the wombe: and foure tranſuerſe, of the which two of them ſpring from the Ribbes on the right ſide, and go to the left ſide, to the bones of the Vanches, oꝝ of Pecten: and the other two ſpring frō the ribbes on the left, and come ouer the wombe to the right partes, as the other befoze doth. Here it is to be noted, that by the vertue of the ſubtil ſoil that is in the Musculus longitudinal, is made perfect the vertue attractiue: and by the Musculus tranſuerſe is made the vertue retentiue: and by the Musculus latitudinal is made the vertue expulſiue. It is thus to be vnderſtood, that by the vertue attractiue is drawen down into the Intrals al ſuperfluities, both water, wynd, & dyꝛt: By the vertue retentiue all thinges are withholden and kepte, vntill nature haue wrought his kinde: And by the vertue expulſiue is put ſoꝛth al thinges, when Nature pꝛouoketh any thing to bee done. Galen ſayeth, that woundes oꝝ incifions bee moze perillous in the middeſt of the wombe then about the ſydes, foꝝ there the partes bee moze tractable than anye other partes bee. Alſo hee ſayeth, that in woundes perſing the wombe there ſhall not bee made good incarnation, except Sifac bee ſewed with Mirac. Nowe to come to the partes conteyned within: Firſt, that which appeareth next vnder the Sifac is Omentum, oꝝ Zirbus, the which is a Vannicle couering the ſtomacke and the Intrals, implanted with many Veines and Arteirs, & not a little fatnes oꝝdeined to keepe

moyst the inward parts. This Zirbus is an official member, & is cōpound of a veyne & an Arteir, the which entreth & maketh a line of the vtter tunikle of the stomacke, vnto which tunikle hangeth the Zirbus, and couereth all the guttes down to the shayze. Two causes I finde why they were ordeined: one is, that they shoulde defende the nutratues outwardly: the second is, that through his owne power and vertue he should strength & comfort the digestion of al the Nutrates, because they are more febler then other members be, because they haue but a thin womb or skinne &c. Next Zirbus appeareth the Intrals or guttes, of which Galen sayeth, that the Guttes were ordeined in the first creation to conuey the drosse of the meate & drinke, and to cleanse the bodie of their superfluities. And here it is to be noted that there be fire portions of one whole gutte, which both in man and beast beginneth at the nether mouth of the stomack, and so continueth forth to the end of the fundament. Neuerthelesse he hath diuers shapes and formes, & diuers operations in the body, and therefore he hath diuers names. And herebyon the Philosophers saye, that the lower wombe of a man is like vnto the womb of a swine. And like as the stomack hath two tunikles, in like maner haue all the Guttes two tunikles. The first portion of the Guttes is called Duodenum, for he is xij. ynches of length, and couereth the nether parte of the stomacke, and receiueth all the drosse of the stomacke: The seconde portion of the Guttes is called Ieiunium, for he is euermore emptie, for to him lyeth euermore the chest of the Gal, beating him soze, and draweth forth of him al the drosse, and cleanseth him cleane: The third portion or gutte is called Yleon, or small gutte, & is in length xv. or xvi. Cubites. In this gutt oftentimes falleth a disease called Yleaca passio. The iiii. gut is called Monoculus, or blind gutte, and it seemeth to haue but one hole or mouth, but it hath two, one neer vnto the  
the



the other, for by the one all things go in, and by the other they go out againe: The first is called Colon, and receiueth al the Masse depriued from al profitablenes, and therefore there commeth not to him any veynes Miserables, as to the other: The sixt and last is called Rectum, or Longeon, and he is ended in the Fundament, and hath in his nether end foure Muscles, to hold, to open, to shutt, and to put out, &c. Next is to be noted of Mesenterium, the which is nothing else but a texture of innumerable veynes Miserables, ramed of one veine called Porta epates, couered and defended of Pannicles and Ligamentes comming to the Intrals, with the backe full of fatnes & glandulus flesh, &c.

The Stomacke is a member compound and spermatike, sensitiue and sensible, and therein is made perfecte the first digestion of Chyle. This is a necessarie member to all the body, for if it faile in his working, all the members of the body shal corrupt. Wherefore Galen sayeth, that the Stomacke was ordained principally for two causes: The first, that it shoulde bee to all the members of the bodie, as the earth is to all that are ingendred of the earth, that is, that it shoulde desire sufficient meate for all the whole bodie: The second is, that the Stomack shoulde be a sacke or chest to al the bodie for the meate, and as a Cooke to all the members of the body. The Stomacke is made of two pannicles, of which the inner is Perueous, and the vtter Carneous. This inner pannicle hath musculus longitudinales that stretcheth along from the Stomacke to the mouth, by the which he draweth to him meate and drinke, as it were hands. And he hath Transuers wyl, for to withholde or make retention. And also the vtter pannicle hath Latitudinall wil, to expulse and putt out: and that by his heate he shoulde helpe the digestive vertue of the Stomacke, and by other heates giuen by his neighbours, as thus. It hath the Liuer on the right side, chaffing and heating him with his

lobes or figures: and the Splen on the lefte side with his fatnes, and bey nes sending to him melancolie, to exercise his appetites: and aboue him is the Hart, quickening him with his Arteirs: Also the bzaine, sending to him a bzanch of Nerves to giue him feeling. And he hath on the hinder part, disending of the partes of the backe manye Lygaments, with the which he is bound to the Spondels of the back. The forme or figure of the stomock is long, in likenes of a golwde, crooked: and that both holes be in the vpper part of the body of it, is, because there should be no going out of it vnadvisedly of those thinges that are receiued into it. The quantitie of the stomacke commonly holdeth two pitchers of water, and it may suffer many passions, & the nether mouth of the stomack is narrower than the vpper, and that for three causes: the first cause is, that the vpper receiueth meat great and boystrous in substance, that there being made subtile it might passe into the nether: The second is, for by him passeth al the meates, with their chilositie from the stomacke to the Lyuer: The thirde is, for that through him passeth al the drosse of the stomack to the guttes. And this suffiseth for the Stomacke &c.

The Lyuer is a principal member, and official, and of his first creation spermatike, cōplete in quantitie of blood, of himself insensible, but by accident he is sensible, and in him is made the second digestion, and is lapped in a Senowey pannicle. And that he is a principal member, it appeareth openly by the Philosophers, by Auicen and Galen. And it is official as is the stomacke, and it is of spermatik matter, and senowey, of the which is ingendzed his veines. And because it was little in quantitie, nature hath added to it crudded blood, to the accomplishment of sufficient quantitie, and is lapped in a senowey pannicle. And why the Lyuer is cruded, is, because that Chyle which cometh from the Stomacke to the Lyuer, shoulde be turned  
into



into the colour of bloud. And why the L yuer was ordey-  
ned, was, because that all the nutrimentall bloud shoulde  
bee ingendred in him. The proper place of the L yuer is  
vnder the false Ribbes in the right side. The forme of the  
L yuer is gibbous or buncchie on the backeside, and it is  
somewhat hollowe lyke the insyde of an hande. And  
why it is so shapen, is, that it shoulde bee pleyable to the  
stomacke, like as a hande doeth to an apple, to comforte  
her digestion, for his heate is to the stomacke as the heate  
of the fyre is to the Poete or Cauldron that hangeth o-  
uer it.

Also the L yuer is bounde with his pellicles to the Dia-  
aphragma, and with Gronge Lygamentes. And also hee  
hath Colyganies with the Stomacke and the Intrals, and  
with the Harte and the Keynes, the Testicles and other  
members. And there are in him five Bellikles like five  
fingers. Galen calleth the L yuer Massasanguinaria, con-  
teyning in it selfe foure substances, Naturall and Putri-  
mental. The naturall is sent with the bloud to all partes  
of the bodie to be ingendred and nourished. And the nu-  
trimentall by sequestrate and sent to places ordeyned for  
some helppinges. These are the places of the humours, the  
bloud in the L yuer, Choler in the chest of gal, Melancolie  
to the Spleen, Flegme to the Lungs and the Iunctures,  
the waterie superfluities to the Keynes and the Mesike.  
And they goe with the bloud, and sometime they putrisse  
and make Reuets, and some be put out to the skinne, and  
be resolved by sweat, or by shewe, by Pushe, or by Im-  
postumes. And these foure naturall humours, that is to  
saye, Sanguine, Choler, Melancoly, and Flegme, bee  
ingendred and distributed in this manner: First ye shall  
vnderstande that from the Spermatike matter of the Li-  
uer inwardly, there is ingendred two great veynes, of the  
which the first & the greatest is called Porta, and commeth  
from

from the concauitie of the L yuer , of whome springeth all the small beynes Miseraices, and these Miseraices bee to Vena porta as the branches of a tree be to the stocke or tree for some of them be contained with the botome of the stomacke, some with Duodenum, some with Ieiunium, some with Yleon, and some with Monoculus, or Saccus. And from all these guttes they bring to Vena porta the succozitie of Chiley going from the stomacke, and distribute it into the substance of the L yuer. And these beynes Miseraices be innumerable. And in these baynes is begon the second digestion, and ended in the L yuer, like as is in the Stomacke the first digestion. So it proueth that Vena porta and Vena Miseraices serue to bring all the succozitie of the meate and drinke that passeth the Stomacke to the Liuer, and they spread themselves thorough the substance of the Liuer inwardly, and all they stretch towarde the gibbos or bowing part of the Liuer, and there they meete and go al into one vnitie, and make the second great beyne called Venaculis or Concaua, or Vena ramosa, al is one, & he with his rootes draweth out al the blood ingendred from the Liuer, and with his branches ramesying bpwardes & downwardes, carryeth and conueyeth it to all other members of the body to be nourished with, where is made perfect the third digestion. And also there goeth from the Liuer beynes bearing the superfluities of the third digestion to their proper places, as it shalbe declared hereafter.

Now to speake of the Gal, or the chest of the Gal: it is an official member, and it is spermatike and fenow, and hath in it a subtil will, and it is as a purse or a pannicular besike in the holownesse of the L yuer, about the middle pericke or lobe, or deuyed to receiue the Cholerike superfluities which are ingendred in the L yuer. The which purse or bagge hath three holes or neckes: by the first hee draweth to him from the L yuer the choler, that the blood  
be



be not hurt by the choler: by the seconde necke he sendeth to the bottome of the stomacke Choler to further the digestion of the stomacke: And by the thirde necke he sendeth the choler regularly from one gutte to another to cleanse them of their superfluties and drosse: and the quantitie of the purse may containe in it halfe a pinte, &c.

And next is the Splen, or the Milte, the which is a spermatike member, as are other members, and official, and is the receptorie of the melancolious superfluties that are ingendred in the Liuer. And his place is on the lefte syde, transuersly linked to the stomacke, and his substance is thinne. And two causes I find why he was ordained there: The first is, that by the melancolious superfluties that are ingendred of the Lyuer which he draweth to him, hee is nourished with: The second cause is, that the nutritiue blood should by him be made the moze purer & cleane, from the drosse and thicking of melancolie, &c.

And next of the Keynes and Kidnes: It is to be understood, that within the region of the Putrites backwards, are ordeyned the Kidnes, to cleanse the blood from the waterie superfluties, and they haue eche of them two passages, or holes, or neckes: by the one is drawen the water from Menakelis by two keynes, which are called vena emulgentes, the length of a finger of a man, and issueth from the Lyuer: and by the other is sent the same water to the Bladder, and is called Poros vrithides. The substance of the Kidnes is Lazarus flesh, hauing longitudinal wil. And their place is behinde on eache side of the Spondels, and they are two in number, and the right Kidney lyeth somewhat higher than the left, and is bound fast to the backe with Lygaments. The Philosopher sayeth, that mans Kidneys are like to the Kidneys of a Cowe, full of harde knottes, hauing in him many harde concauities, and therefore the sores of them be harde to cure. Also they

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are more harder in substance then any other fleshy member, and that for two causes, one is: that he be not much hurt of the sharpnesse of the vaine: The other is, that the same vaine that passeth from him might the better be altered and cleansed through the same. Also there commeth from the harte to each of the kidneys an arteire, that bringeth with him blood, heate, spirit, and lyfe. And in the same maner there commeth a veyne from the L yuer, that bringeth blood to nourishe the kydneyes, called blood nutrimentall. The grease of these kydneyes or fatnes is as of other inward members, but it is an officiall member, made of thinne bloude, congeled and cruded through colde, and ther is ordeined the greater quantitie in his place, because it should receaue and temper the heate of the kydneyes, which they haue of the biting sharpnesse of the water. Now by the kydneyes vpon the Spondels passeth Venakelis, or venacaua, which is a veine of great substance, for he receyuethe all the nutrimentall blood from the L yuer, and from him passeth many small pypes on euery side, and at the Spondell betwene the shoulders he deuidenth him selfe whole into two great braunches the one goeth into the one arme, & the other into the other, and there they deuide them selues into manye veynes, and braunches: as is declared in the armes.

*The Anatomy of the Haunches,*  
and their parts.

**T**he Haunches are the lower parte of the wombe, ioyning to the Thyes, and the secrete members. And thre things there are to be noted thereof, the first is of the partes conteining: the second is of the partes conteined: and the thirde is of the partes proceeding outwarde. The partes conteining outwardly, be Myrac and Sifac, the Zirbus



Zirbus and the bones. The partes contained inwardly, are the Vezike, or bladder, the spermatike vessels, the Matric in women Longaon, Perues, Ueynes, and artiers, disscending downewardes. The partes proceeding outwardes, are The Buttockes, and the Muscles disscending to the Thies of which it is to be spoken of in order. And first of the parts conteining: as of Myrac, Sifac, and Zirbus, there is enough spoken of in the Anatomy of the wombe. But as for the bones of the Vanches, There be of the parts of the backe three Spondels of Ossa sacri, or of the Vanches, and three cartaliginis spondeles of Ossa caude, called, The Tayle bonne. And thus it is proued, that there is in every man xxx. spondels, and thus they are to be numbred: In the necke seauen, in the Kidge twelue: In the Keynes syue: and in the Vanches six, And it is to be noted, that every Spondell is hollowe in the middell: through which hollownesse passeth Puca from the Brayne, or the marrowe of the backe. And some Authoꝝ say, that Mynuca is of the substance that the Brayne is of, for it is lyke in substance, and in it selfe geueth to the Perues both the vertue of mouing and feeling. And also euery Spondell is holed on euery side, through the which holes both artiers and veynes, doe bring from the Harte and the Lyuer both lyfe and nourishment, lyke as they doe to the Brayne: and from the pannicle of Mynuca or the Marrowe of the backe, through the holes of the sides of the Spondels, springeth forth Perues motiues and there they intermeddle themselves with the strong Lygaments that be insensible, and so the Lygamentes receiue that feeling of the Perue, which the Perue taketh of Mynuca. And by this reson many Authoꝝ proue, that Mynuca is of the same Substance that the Brayne is of, and the Pannicles of the Puca is of the same Substance of the Pannicles of the Brayne. &c. And eche of these spondels be bound fast one with an other, so that one of them maye

not wel be moued without another. And so al these Spondels together, contayned one by another are called the Kidgebone, which is the foundation of all the shape of the body. They with the last spondel be conteyned or ioyned to the bones of the Hanches, and they be the vpholders of all the spondels. And these bones be small towarde the tayle bone, and broad towarde the Hanches, and before they ioyne and make Os pectinis. And so they be broad in the partes of the fles, and therefore some Authoys calleth it Ilea. And ech of these two bones toward the Liner hath a great round hole, into the which is receiued the bone called Vertebra, or, The whozle bone, Also besides that place there is a great hole or way, thzough the which passeth frō aboue Musculus, veynes, and Arteirs, and goe into the Thyes. And thus it is to be noted, that of this bone Pecten, and the bone Vertebra, is made the iuncture of the Thye.

Now to speake of the partes contained, the first thing that commeth to sighte, is the bladder, the which is an official member, compound of two neruous Pānicles, in complexion colde and drye, whose necke is carnous, and hath muscles to withholde, and to let goe: and in men it is long, and is contained with the yard, passing thzough Peritoneum, but in women it is shorzer, and is contained within the Vulua. The place of the bladder is betwēne the bone of the Share and the tayle gutte called Longaon, and in women it is betwēne the foresaid bone and the Matrix. And in it is implanted two long vessels comming from the Kidneis, whose names be Porri vrichides, bringing with them the Urin or water from the Kidnes to the Bladder, which priuily entreth into the holes of the pannicles of the bladder, by a natural mouing betwēne tunicle & tunicle, & there the vzin findeth the hole of the nether tunicle, and there it entreth priuily into the concauitie of the bladder,  
and



and the moze that the bladder is filled with vrin, the straiter be the two tunicles compzised together, for the holes of the tunicles be not euen one against another, and therefore if the bladder bee neuer so full, there may none goe backe againe. The forme of it is rounde, the quantitie of it is a pitcher full, in some moze, and in some lesse, &c.

Also there is founde two other vessels called vaza semina-ria, or the spermatike vessels. And they come from Vena- kelis, bringing bloud to the Testikles, as wel in man, as in woman, in the which by his further digestion it is made sparme or nature in men. They be put outwarde, for the Testikles bee without, but in women it abydeeth within, for their Testikles stande within, as it shalbe declared hereafter.

Next followeth the Matrix in women: The Matrix in woman is an officiall member, compounde and Perueous and in complexion cold and dry. And it is the seelde of mans generation, and it is an instrument susceptible, that is to say a thing receauing or taking: & her proper place is between the bladder and the gutte Longaon, the likenes of it, is as it were a yarde reuerled or turned inwarde: hauing testicles likewise, as aforesayd, Also the Matrix hath two concavities or selles, and no moe, but all beastes haue as many selles as they haue pappes heades. Also it hath a long necke lyke an vrinall, and in euery necke it hath a mouth, that is to say, one within, and an other without. The inner in the tyme of the conception is shutte, and the vtter parte is open as it was before: and it hath in the middest a Lazartus pannicle, which is called in Latin Tentigo. And in the creati- on of this Pannicle, is founde two vtilities: The first is, that by it goeth forth the vrine, or els it should be shedde throughout all the Vulua: The second is, that when a wo- man doth set her thies abzoade it altereth the ayre that com- meth to the matrix for to temper the heate. Furthermore

the necke that is betwene these two foresayde mouthes, in her concauitie hath many inuolutions and pleates, ioyned together in the manner of Rose leaues before they be fully spread or rype, and so they be shut togeather as a Purse mouth, so that nothing may passe forth but vrin, vntill the tyme of chylding. Also about the middle of this necke be certayne veynes in Maydens, the which in time of deflouring be corrupt and broken. Furthermoze, in the sides of the vtter mouth of the mouth are two testicles or stones, & also two vessels of sparme shorter then mans vessels, and in time of coyt the womans sperme is shedde downe into the bottome of the Matrix. Also from the Lyuer there commeth to the Matrix manye veynes, bring-  
 ing to the chylde nourishing at the time of a womans being with chylde: and those veynes, at such time as the Matrix is boyde, bring thereto superfluities from certayne members of the bodye, whereof are ingendred womens flowres, &c.

And forasmuche as it hath pleased Almighty God to giue the knowledge of these his mysteries and woorks vnto his Creatures in this present woylde, Here I purpose to declare what thing Embzeon is, and his creation. The noble Philosophers, as Galen, Auicen, Bartholomeus, & diuers other wryting vppon this matter, saye, That Embzeon is a thing ingendred in the mothers wombe, the originall whereof is the sparme of the man and of the woman, of the which is made by the might and power of God in the mothers wombe a chylde, as hereafter moze at large shalbe declared. First, the felde of generation called the Matrix, or the mother, is knowen in the Anatomie, whose place is properly betwixt the bladder and Longaon in the woman, in which place is sowne by the tillage of man a couenable matter of kindly heate, for kindly heate is cause efficiency both of dooing and woorking, and spirite that gi-  
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ueth vertue to the bodie, and gouerneth and ruleth that vertue: the which seede of generation commeth from all the partes of the bodie, both of the man and the woman, with consent and will of all members, and is shed into the place of conceiuing, where through the vertue of Nature it is gathered togeather in the selles of the Matrice or the mother, in whome by the way of the working of mans seede, and by the waye of sufferinge of the womans seede mixt togeather, so that eche of them worketh in other, and suffereth in other, there is ingendred Embryon. And further it is to bee noted, that this sparme that commeth both of man and woman, is made and gathered of the moste best and purest drops of blood in all the bodie, and by the labour and chafing of the testikles or stones this blood is turned into another kinde, and is made sparme. And in man it is hote, white, and thicke, wherefore it maye not spread nor runne abroad of it selfe, but runneth and taketh temperance of the womans sparme, which hath contrarie qualities, for the womans sparme is thinner, colder, and feebler. And as some Authours hold opinion, when this matter is gathered into the right side of the Matrice, then it happeneth a male kinde, and likewise on the lefte the female, and where the vertue is most, there it saoureth most. And further it is to bee noted, that like as the Renet of the Cheese hath by himselfe the way or vertue of working, so hath the mylke by waye of suffering: and as the Renet and mylke make the cheese, so doeth the sparme of man and woman make the generation of Embryon, of the which thing springeth by the vertue of kindly heate, a certaine skinne or caule, into the which it lappeth it selfe in, wherwith afterwards it is tyed to the mothers wombe, the which couering commeth forth with the birth of the child, & if it happen that any of the skinne remaine after the birth of the childe, then is the woman in perill of her life.

Further,

Furthermoze, it is said, that of this Embzeon is ingendred the Hart, the L yuer, the Wzayne, Perues, veines, Arteirs, Cozdes, Lygaments, Skinnes, Gristles and bones, receiuing to them by kindly vertue the mensruall bloud, of which is ingendred both flesh and fatnes. And as wryters say, the first thing that is shapen be the pꝛincipals, as is the Hart, L yuer, and Wzayne. For of the Hart springeth the Arteirs, of the L yuer the Veines, and of the Wzayne the Perues: and when these are made, Nature maketh & hath peth bones and grystles to keepe and saue them, as the bones of the head for the Wzayne, the Best bones and the Ribbes for the Hart and the L yuer. And after these springeth all other members one after another. And thus is the child bred forth in foure degrees, as thus: The first is, when the sayde sparne or seede is at the firste as 'it were mylke: The seconde is, when it is turned from that kinde into another kinde, is yet but as a lumpe of blood, and this is called of Ypocras, Fettus: The third degree is, when the pꝛincipals be shapen, as the Hart, L yuer, and Wzayne: The fourth and laste, as when all the other members bee perfectly shapen, then it receiveth the soule with life and breath, and then it beginneth to moue it selfe alone. Now in these foure degrees aforesaid, in the first as milke it continueth vii. dayes: in the second as Fettus ix. dayes: in the thirde, as a lumpe of flesh ingendring the pꝛincipals the space of ix. dayes: and the fourth vnto the tyme of full perfection of all the whole members, is the space of, xviii. dayes: So is there, xlvi. dayes from the daye of conception vnto the day of full perfection and receiuing of the soule, as God best knoweth.

Now to come againe to the Anatomie of the Vanches: When come we to Longaon, otherwise called, The tayle gutte, whose substance is panniculer, as of al the other bowels, the length of it is of a span long, stretching nigh to  
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Raynes, his nether parte is called Annis, that is to say, the Cowell. And about him is founde two Muscles, the one to open, the other to shutte. Also there is founde in him syue veynes or bzaunches, of veynes, called Vena Emoraidales, and they haue colliganes with the bladder. Wherefoze they are parteners in their græues. And when this Longaon is raised vp, then ye may see the veynes and arteires, and senewes, how they be bzaunched and bound downe to the nether partes. The partes proceeding outwardly, are, Didimus, Peritoneum, the Vard, the Testicles, and the Buttocks, And fyrst it shalbe spoken of the Varde, or of mans generatiue members, the which dureth vnto that parte that is called Peritoneum, the which place is from the Coddes vnto the Fundament, wherevpon is a seame. Wherefoze sayth the Philosopher, Mans yarde is in the ende and terme of the Ware. The yarde is an officiall member, and the tiller of mans generation, compounde and made of skinne, bzaunes, Tendons, veynes, arteirs, senewes and greate Lygamentes: and it hath in it two passages, or principall issues, one for the sparne, and an other for the vyne. And as the Philosophers say, the quantitie of a common Varde is, viij, or, ix. ynches, with mesurable bigenesse proportioned to the quantitie of the matrix. This member hath, as sayth Auicen, thre holes, through one passeth incensibile pollutions and wynde, that causeth the yarde to ryse: the other two holes is declared befoze. Also the yarde hath a skinne, & about the head thereof, it is double, and that men call Prepusium, and this skinne is moueable, for through his consecration the spermatike matter is the better and sooner gathered together, and sooner cast forth from the Testicles: for by him is had the more delectation in the dwing. And the for most parte of the heade of the yarde befoze is made of a Brawny fleshe, the which if it be once losse, it is neuer restored againe, but it may be well skenned. &c.

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The Coddes is a compound member, and an officiall, & though it be counted amongst the generatiue members, yet it is called a principall member because of generation. This purse was ordeyned for the custodie and comfort of the testicles & other spermatike vessels. And it is also made of two partes, of the inner, & the vtter. The vtter is compound and made of skin, & lazartus, longitudinal and transuersal, in like maner as is the Wyzac. The inner parte of the Coddes is of the substance of the Sifac, and are in similitude as two pocketes drawen together by themselves, and they differ not from the Sifac: and there be two, because if there fall anye hurt to the one, the other shoulde serue. The Testicles or stones be two, made of glandulus fleshy or curnelly flesh. And furthermoze, through the Didimus commeth to the Testicles from the Brayne, Senowes, & from the Hart Arteirs, & from the Liuer veines, bzinging vnto them both feeling & steering, life & spirite, & nutrimental blood, and the most purest blood of al other members of the bodie, whereof is made the sparme by the laboꝝ of the Testicles, the which is put forth in due time, as is before rehearsed.

The Groynes be knowen: they be the emy iunctures or purging place vnto the Liuer, and they haue curnelly flesh in the plying or bowing of the Thyres. The Hipples haue great brawny flesh on them, & from thence dissende downwards brawnes, coꝝds, and lygaments, mouing & binding together the thies, with the Haunches themselves.

### *The Anatomie of the Thyres, Legges, and Feete.*

**T**he Legge reacheth from the Joynt of the Thye vnto the extremitie of the Toes, and I will deuide it in parts.



partes, as the armes were deuided: One parte is called Coxa or Thigh, and that is all that is contained from the ioynte of the Haunch vnto the knee: The second parte is called Tibia, and that reacheth from the knee to the Ankle: The third is the litle foote, and that is from the ankle, vnto the ende of the Toes. And here it is to be noted, That the Thigh, Legge, and foote, are compound and made as the great arme or hand, with skinne, fleshe, veynes, Arteires, Seneues, bzawnes, Tendons, and bones, whereof they are to be spoken of in order. Of the skinne and fleshe there is inough spoken of before. And as of veynes and arteirs in their discending downewardes at the last spondels they be deuided into two partes, whereof the one part goeth into to the right Thye, and the other into the lefte, and when they come to the Thye they be deuided into other two great bzanches: the one of them spreadeth into the inner side of the Legge, and the other spreadeth into the viter side, and so bzanching dissend downe to the Legge to the ankles and fete, and be bzought into foure veyns which be commonly vied in letting blood, as hereafter followeth. One of them is vnder the inner ankle toward the Heele, called Soffena, and an other vnder the vnder ankle, called Siarica, and another vnder the hamme, called Poplitica, the fourth betwixen the litle Toe and the next, called Kepalis. And it is to be noted of these foure greate veynes in the legges of the manifolde daungers that might fall of them, as oft it hapeneth. There be many other bzanches which a Chirurgion nedeth not much to passe vpon. The Seneues spring of the last Spondell, and of Os sacrum, and passeth through the hole of the bone of the Hippe, and discendeth to the bzawnes, and moueth the knee and the ham, and these discende downe to the ankle, and moue the foote, and the bzawnes of the fete moue the toes, in lyke maner as is declared in the bones of the hands. The first is called coxa that is the thye bone, and

he is without a fellowe, and he is full of Marrowe, and is rounde at either ende: The roundnesse that is at the vpper ende is called Vertebrium, or Whorle bone, and boweth inwards, and is receaued into the bore or hole of the hanche bone: and at the lower and towards the knée there it hath two roundes, which be receaued into the concavities of the bone of the legge, at the knée, called the great Fossels. Ther is also at the knée a rounde bone called, The knée panne. Then followeth the legge, wherein is two bones, called Focile maior, and Focile minor, the bigger of them passeth befoze, making the shape of the shinne, and it is called the shinne bone, and passeth downe making the inner ancle. The lesse passeth frō the knée backwards, dissending down to the vtter ankle, and there formeth that ankle. &c. The bones of the foote are, xxvj. as thus, First, next the ankle bone is one, called in Latine Orabalistus: next vnder that towarde the Heele is one, called Calcany: and betwene them is an other bone called Os Nauculare: In the seconde ward there be foure bones, called Raceti, as be in the hands. In the thirde and fourth warde be, iiii. called Digitori: and v. called Pedens at the extremities of the Toes, next to the nayles. And thus be there in the foote, xxvj. bones with the Legge from the Ankle to the knée, two in the knée, and one rounde and flatte bone, and in the Thye one. And thus shall you finde in the whole Legge and Foote, xxx.

bones. And this sufficeth for young  
Practicioners.



